

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE <div style="text-align: center;">J</div>		PAGE OF PAGES <div style="text-align: center;">1 18</div>	
2. AMENDMENT/MODIFICATION NO. <div style="text-align: center;">0002</div>		3. EFFECTIVE DATE <div style="text-align: center;">13-Sep-2005</div>		4. REQUISITION/PURCHASE REQ. NO. <div style="text-align: center;">W16ROE-5193-5896</div>		5. PROJECT NO.(If applicable)	
6. ISSUED BY USA ENGINEER DISTRICT, NEW YORK ATTN:CENAN-CT ROOM 1843 26 FEDERAL PLAZA NEW YORK NY 10278		CODE <div style="text-align: center;">W912DS</div>		7. ADMINISTERED BY (If other than item 6) <div style="text-align: center; font-weight: bold;">See Item 6</div>			
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				<input checked="" type="checkbox"/> 9A. AMENDMENT OF SOLICITATION NO. W912DS-05-B-0019			
				<input checked="" type="checkbox"/> 9B. DATED (SEE ITEM 11) 19-Aug-2005			
				10A. MOD. OF CONTRACT/ORDER NO.			
				10B. DATED (SEE ITEM 13)			
CODE		FACILITY CODE					
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required)							
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.							
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.							
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).							
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:							
D. OTHER (Specify type of modification and authority)							
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) The purpose of this amendment is to: a. Incorporate changes to the specifications. b. Add revised Wage Rates NY030003 09/09/2005 NY3, and to respond to questions from prospective bidder. (See Continuation Sheet) Bidders must acknowledge receipt of this amendment by the date specified in the solicitation (or as amended) by one of the following methods: By signing Block 15 below, by separate letter, or by telegram. FAILURE TO ACKNOWLEDGE AMENDMENTS BY THE DATE AND TIME SPECIFIED MAY RESULT IN REJECTIONS OF YOUR BID IN ACCORDANCE WITH THE LATE BID, LATE MODIFICATION OF BIDS, OR LATE WITHDRAWAL OF BIDS (FAR 14.304) Bid Opening Date remains the same: 20 September 2005 2:00 PM. All other terms and conditions remain the same. Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
				TEL: _____ EMAIL: _____			
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)		16C. DATE SIGNED 13-Sep-2005	

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION SF 30 - BLOCK 14 CONTINUATION PAGE

The following have been added by full text:

AMENDMENT 0002

W912DS-05-B-0019

Amendment No. 2

The following changes shall be made to the specifications and plans.

1) SPECIFICATIONS:**SECTION 00900**

Revise wage rates from NY State GENERAL DECISION: General Decision Number: NY030003 09/09/2005 NY3 as provided in this amendment below.

Section 00902: The NYSDEC permits No. 2-6499-00001/000002, Water Quality Certificate for the Arthur Kill Dredging Project to be added.

Section 00905: Draft HTRW, final report dated January 2004 included in this amendment.

Section 02230: Replace with the attached revised section.

THE FOLLOWING QUESTIONS AND ANSWERS ARE PROVIDED FOR INFORMATION ONLY. NOTHING CONTAINED BELOW AMENDS OR REVISES ANY PROVISION OF THE SOLICITATION.

3-Questions and Answers

The New York District has received questions about the contract.

1-Q: Section 00800, #17, Page 56 of 81 specifies a permit issued by the NYSDEC No. 2-6499-00001/000002. Does this permit specify any seasonal restrictions to work in wetlands or waters? Is a copy of the permit available?

Response: The NYSDEC permit No. 2-6499-00001/000002, Water Quality Certificate for the Arthur Kill Dredging Project. A copy of the permit is available in this amendment.

2-Q: Section 00905-1 presents a Draft HTRW report prepared for the Corps in January 2004. Is a Final report available and if so can we obtain a copy?

Response: A draft HTRW report was prepared by AMEC (AE for USACE). The draft report will satisfy as the final copy of the report. And a final report is included in this amendment.

3-Q: Section 02230, Scope of Work, Part 3 Execution, Subpart 3.2.2 - Invasives Eradication. Is this item required of the contractor? If so, seasonal requirements will not be able to be achieved in 2005. Has this task been performed already by others?

Response: This task was performed in early fall/late summer of 2003 and 2004 by others. This is a requirement of the contractor, however, due to the seasonal requirements for the initial herbicide treatment, this will not be able to be achieved for 2005. Due to the timing of the Bid opening it will be impossible to make the contractor responsible for completing this task this year. However the follow-up spraying during the 1-year warrantee is still the responsibility of the contractor.

4-Q: For the Excavation and Disposal Cost, can government include an assumption that the Disposal Facility will be within XX miles radius from the project area.

Response: No, this is the responsibility of the contractor.

General Decision Number: NY030003 09/09/2005 NY3

Superseded General Decision Number: NY020003

State: New York

Construction Types: Building, Heavy, Highway and Residential

Counties: Bronx, Kings, New York, Queens and Richmond
Counties in New York.

BUILDING & RESIDENTIAL CONSTRUCTION PROJECTS (includes single
family homes and apartments up to and including 4 stories),
HEAVY AND HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	06/13/2003
1	05/14/2004
2	05/28/2004
3	07/16/2004
4	07/23/2004
5	07/30/2004
6	09/24/2004
7	10/01/2004
8	10/15/2004
9	12/03/2004
10	12/24/2004
11	02/11/2005
12	03/04/2005
13	05/20/2005
14	06/03/2005
15	07/22/2005
16	08/05/2005
17	08/19/2005
18	09/09/2005

ASBE0012-001 01/03/2005

	Rates	Fringes
Asbestos Workers/Insulator includes application of all insulating materials, protective coverings, coatings and finishing to all types of mechanical systems.....	\$ 41.56	23.86
Hazardous Material Handler.....	\$ 24.45	8.50

BOIL0005-001 09/01/2005

	Rates	Fringes
Boilermaker.....	\$ 44.30	26.70+a

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day, Thanksgiving Day, Memorial Day, Independence Day, Labor Day and Good Friday, Friday after Thanksgiving, Christmas Eve Day and New Year's Eve

BRNY0001-001 07/01/2004

	Rates	Fringes
Bricklayer.....	\$ 39.32	18.46
Stonemason.....	\$ 37.36	18.03

BRNY0001-002 07/01/2004

	Rates	Fringes
Pointer, cleaner and caulker...	\$ 33.50	17.10

BRNY0003-001 07/01/2005

	Rates	Fringes
Terrazzo Finisher.....	\$ 38.37	21.25
Terrazzo Worker.....	\$ 39.68	21.25

BRNY0004-001 07/01/2005

	Rates	Fringes
Marble Setter.....	\$ 46.60	17.00

BRNY0020-001 07/01/2005

	Rates	Fringes
Marble Finisher.....	\$ 39.33	17.32

BRNY0024-001 07/01/2005

	Rates	Fringes
Bricklayer		
MARBLE POLISHERS.....	\$ 35.86	14.45

BRNY0052-001 07/01/2004

	Rates	Fringes
Tile Layer.....	\$ 39.85	18.43

BRNY0088-001 07/01/2004

	Rates	Fringes
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Tile Finisher.....	\$ 33.29	15.00

CARP0001-009 07/01/2003		
	Rates	Fringes
Carpenters:		
Carpenters & Soft floor		
layers.....	\$ 38.78	26.05

CARP0740-001 07/01/2003		
	Rates	Fringes
Millwright.....	\$ 37.06	30.46

CARP1456-004 07/01/2005		
	Rates	Fringes
Dock Builder & Piledrivermen		
DOCKBUILDERS.....	\$ 40.27	29.86

CARP1456-005 07/01/2005		
	Rates	Fringes
Diver Tender.....	\$ 36.44	29.86
Diver.....	\$ 49.79	29.86

CARP1536-001 07/01/2003		
	Rates	Fringes
Carpenters:		
TIMBERMEN.....	\$ 34.47	26.05

* ELEC0003-001 05/12/2005		
	Rates	Fringes
Electrician		
Electricians.....	\$ 43.00	32.84
Jobbing, and maintenance		
and repair work.....	\$ 24.80	12.87+a

PAID HOLIDAYS:		
a. New Years Day, Martin Luther King, Jr.'s Birthday,		
Washington's Birthday, Memorial Day, Independence Day,		
Labor Day, Columbus Day, Election Day, Thanksgiving Day,		
the day after Thanksgiving Day, and Christmas Day		

ELEC1049-001 04/04/2004		
QUEENS COUNTY		

	Rates	Fringes
Line Construction (Substation and Switching structures pipe type cable installation and maintenance jobs or projects; Railroad electrical distribution/transmission systems maintenance (when work is not performed by railroad employees) Overhead and Underground transmission/distribution line work. Fiber optic, telephone cable and equipment)		
Groundman.....	\$ 21.12	12.60
Heavy Equipment Operator....	\$ 28.16	12.60
Lineman and Cable Splicer...	\$ 35.20	12.60
Material Man.....	\$ 30.62	12.60
Tree Trimmer.....	\$ 22.28	7.76

ELEV0001-002 03/17/2005

	Rates	Fringes
Elevator Mechanic		
Elevator Constructor.....	\$ 41.97	20.754+a
Modernization and Repair....	\$ 33.82	19.698+a

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day, Lincoln's Birthday, Good Friday, President's Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veteran's Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

PAID VACATION: Employer contributes 8% of regular basic hourly rate as vacation pay for employees with more than 5 years of service, and 6% for employees with less than 5 years of service.

ENGI0014-001 07/01/2005

	Rates	Fringes
Pavement equipment operator		
Asphalt Plants.....	\$ 37.76	21.60+a
Asphalt roller.....	\$ 44.79	21.60+a
Asphalt spreader.....	\$ 46.03	21.60+a
Power Equipment Operator (HEAVY & HIGHWAY)		
GROUP 1.....	\$ 59.75	21.60+a
GROUP 2.....	\$ 49.13	21.60+a
GROUP 3.....	\$ 50.69	21.60+a
GROUP 4.....	\$ 49.50	21.60+a

GROUP 5.....	\$ 48.50	21.60+a
GROUP 6.....	\$ 46.52	21.60+a
GROUP 7.....	\$ 47.41	21.60+a
GROUP 8.....	\$ 46.03	21.60+a
GROUP 9.....	\$ 45.01	21.60+a
GROUP10.....	\$ 43.04	21.60+a
GROUP11.....	\$ 40.13	21.60+a
GROUP12.....	\$ 41.01	21.60+a
GROUP13.....	\$ 41.36	21.60
GROUP14.....	\$ 30.98	21.60+a
GROUP15.....	\$ 28.71	21.60+a
Steel erector		
Compressors, Welding		
Machines.....	\$ 30.77	21.60+a
Cranes, Hydraulic Cranes,		
2 drum derricks, Forklifts,		
Boom Trucks.....	\$ 51.87	21.60+a
Three drum derricks.....	\$ 54.02	21.60+a
Utility Laborer		
Horizontal boring rig.....	\$ 43.72	21.60+a
Off shift compressors.....	\$ 36.19	21.60+a
Utility Compressors.....	\$ 28.53	21.60+a

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Tower crane

GROUP 2: Backhoes, power shovel, Hydraulic clam shells, moles
and machines of a similar type

GROUP 3: Mine hoists and crane, etc. used as mine hoists

GROUP 4: Gradalls, keystones, cranes (with digging buckets),
bridge cranes, trenching machines, vermeer cutter and
machines of a similar nature

GROUP 5: Piledrivers, derrick boats, tunnel shovels

GROUP 6: All drills, and machines of a similar nature

GROUP 7: Back filling machines, cranes, mucking machines,
dual drum paversGROUP 8: Mixers (concrete w/loading attachments), concrete
pavers, cableways, land derricks, power house (low pressure
units), concrete pumpsGROUP 9: Concrete plants, well drilling machines, stone
crushers double drum hoist, power house (other than above)

GROUP 10: Concrete mixers

GROUP 11: Elevators

GROUP 12: Concrete breaking machine, Hoists (single drum),
load masters, locomotive and dinkies over 10 tons

GROUP 13: Vibratory console

GROUP 14: Compressors (portable 3 or more in battery), tugger machine (caissons), well point pumps, chum drill

GROUP 15: Boilers, (high pressure, compressors (portable, single, or 2 in battery, not over 100' apart), pumps (river cofferdam and welding machines (except where arc is operated by members of local 15) push button machines, all engines irrespective of power (power pac) used to drive auxilliary equipment, air, hydraulic etc.

PREMIUMS ON CRANES (Crawler or Truck):

100' to 149' boom - add .50
 150' to 249' boom - add .75
 250' to 349' boom - add 1.00
 350' to 450' boom - add 1.50

Premiums for Cranes on Steel Erection:

100' to 149' boom - add 1.75
 150' to 249' boom - add 2.00
 250' to 349' boom - add 2.25
 350' to 450' boom - add 2.75
 Tower crane - add 2.00

FOOTNOTE:

a. Paid Holidays: New Year's Day; Lincoln's Birthday; Washington's Birthday; Memorial Day; Independence Day; Labor Day; Veterans Day; Columbus Day; Election Day; Thanksgiving Day; and Christmas Day; provided the employee works one day the payroll week in which the holiday occurs.

 ENGI0014-002 07/01/2005

	Rates	Fringes
Power Equipment Operator		
BUILDING & RESIDENTIAL		
GROUP 1.....	\$ 48.72	21.60+a
GROUP 2.....	\$ 51.60	21.60+a
GROUP 3.....	\$ 47.06	21.60+a
GROUP 4.....	\$ 42.81	21.60+a
GROUP 5.....	\$ 32.04	21.60+a

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Double drum

GROUP 2: Stone derrick, cranes, hydraulic cranes, boom trucks

GROUP 3: 4 pole Hoist, Single Drum Hoists

GROUP 4: Fork lift, house cars, plaster (platform machine), plaster bucket, concrete pump and all other equipment used

for hoisting material

GROUP 5: Compressors, welding machines (cutting concrete work), paint spraying, sand blasting, pumps (with the exclusion of concrete pumps), house car (settlement basis only), all engines irrespective of power (power pac) used to drive auxiliary equipment, air, hydraulic, etc., boilers

Premiums for Cranes:

100'-149' boom - add 1.75
 150'-249' boom - add 2.00
 250'-349' boom - add 2.25
 350'-450' boom - add 2.75
 Tower cranes add 2.00

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day, Lincoln's Birthday, Memorial Day, Independence Day, Labor Day, Veteran's Day, Columbus Day, Election Day, Thanksgiving Day, and Christmas Day, provided the employee works one day in the payroll week in which the holiday occurs

 IRON0040-002 01/01/2005

BRONX, NEW YORK, RICHMOND

	Rates	Fringes
Ironworker, Structural.....	\$ 37.65	41.88

 IRON0046-003 07/01/2004

	Rates	Fringes
Ironworker		
METALLIC LATHERS.....	\$ 39.50	26.14

 IRON0197-001 07/01/2003

	Rates	Fringes
Ironworker		
STONE DERRICKMAN.....	\$ 35.76	29.07

 IRON0361-002 07/01/2005

KINGS, QUEENS

	Rates	Fringes
Ironworkers:		
(STRUCTURAL).....	\$ 37.65	41.88

 IRON0580-001 07/01/2003

	Rates	Fringes
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Ironworker, Ornamental.....	\$ 35.65	28.50

LABO0006-001 07/01/2003		
	Rates	Fringes
Laborers:		
BUILDING CONSTRUCTION		
CEMENT AND CONCRETE WORKERS	\$ 31.50	15.27

LABO0029-001 07/01/2001		
	Rates	Fringes
Laborers:		
Heavy		
Blasters (hydraulic trac		
drill).....	\$ 32.08	16.70
Blasters.....	\$ 31.53	16.70
Hydraulic Trac Drill.....	\$ 28.38	16.70
Jackhammers, Chippers,		
Spaders, Concrete		
Breakers, All Other		
Pneumatic Tools, Walk		
Behind Self-Propelled		
Hydraulic Asphalt and		
Concrete Breaker.....	\$ 27.14	16.70
Powder Carriers.....	\$ 24.50	16.70
Wagon; Airtrac; Quarry		
Bar Drill Runners.....	\$ 27.83	16.70

LABO0078-001 12/01/2003		
	Rates	Fringes
Asbestos Worker		
ASBESTOS (Removal,		
Abatement, Encapsulation		
or Decontamination of		
asbestos); LEAD; &		
HAZARDOUS WASTE LABORERS		
(Hazardous Waste,		
Hazardous Materials,		
Biochemical and Mold		
Remediation, HVAC, Duct		
Cleaning, Re-spray		
Fireproofing, etc.....	\$ 25.50	6.81

LABO0079-001 01/01/2005		
	Rates	Fringes
Laborers Building Construction		
Mason Tenders.....	\$ 28.00	16.39
Demolition Laborers		

Tier A.....	\$ 28.00	14.99
Tier B.....	\$ 17.70	8.95

CLASSIFICATIONS

TIER A: Responsible for the removal of all interior petitions and structural petitions that can consist of sheet rock, block or masonry. Also, all structural slab openings for ducts, mechanical, shafts, elevators, slab openings and exterior walls where the building is not being completely demolished.

TIER B: Responsible for shoveling of debris into containers, pushing containers from the inside to the outside of the building.

LABO0147-001 07/01/2003

	Rates	Fringes
Laborers:		
LABORERS.....	\$ 28.86	30.51

FREE AIR TUNNEL WORKERS Tunnel Workers (including Maintenance Men, Inside Muck Lock Tenders, Pump Men, Electricians, Cement Finishers, Caulkers, Hydraulic Men, Shield Men, Monorail Operators, Motor Men, Conveyor Men, Powder Carriers, Pan Men, Riggers, Chuck Tenders, Track Men Painters, Nippers, Brakemen, Cable Men, Hose Men, Grout Men, Gravel Men, Form Workers, Concrete Workers, Tunnel Laborers, Mole Nipper (one (1) Mole Sipper per Working Shaft per Shift for up to and including Two (2) Moles)

LABO0731-001 07/01/2001

	Rates	Fringes
Laborers:		
Building, Heavy and Residential		
UNSKILLED.....	\$ 28.74	14.64
UTILITY LABORER.....	\$ 28.59	14.64

Paid Holidays: Labor Day and Thanksgiving Day

LABO1010-001 07/01/2001

	Rates	Fringes
Laborers:		
HIGHWAY CONSTRUCTION		
Fence Installer & Repairer.	\$ 28.84	15.55+a
FORMSETTERS.....	\$ 32.04	15.55+a
LABORERS.....	\$ 28.94	15.55+a
Landscape Planting & Maintenance.....	\$ 28.84	15.55+a

Maintenance Safety Surface.\$ 28.44	15.55+a
Slurry/Sealcoater/Play	
Equipment Installer.....\$ 28.69	15.55+a
Small Equipment Operator	
(Not Operating Engineer)\$ 28.94	15.55+a
Small Power Tools Operator.\$ 28.44	15.55+a

FOOTNOTES:

a. PAID HOLIDAYS: Memorial Day, Fourth of July, Labor Day, Columbus Day, Election Day and Thanksgiving Day, provided the employee has worked one (1) day in the calendar week in which the said holiday occurs.

LABO1018-001 07/01/2001

	Rates	Fringes
Laborers:		
Asphalt Rakers.....\$ 32.36	15.55+a	
Asphalt Tampers.....\$ 29.92	15.55+a	
Landscape Planting & Maintenance Fence		
Installer/Maintenance.....\$ 29.81	15.55+a	
Line Striping Installers...\$ 29.56	15.55+a	
Play Equipment/Safety		
Surface Installer.....\$ 29.31	15.55+a	
Screedman/Micropaver.....\$ 32.73	15.55+a	
Shoveler, General		
Laborers/ All other		
incidental work.....\$ 29.81	15.55+a	
Slurry/Sealcoater.....\$ 29.31	15.55+a	
Small Equipment Operator...\$ 29.56	15.55+a	

FOOTNOTE:

a. Paid Holidays: Memorial Day, Independence Day, Labor Day, Columbus Day, Election Day, Veterans Day, and Thanksgiving Day

PAIN0009-001 05/01/2004

	Rates	Fringes
Glazier.....\$ 33.60	22.87	
Painters:		
Painters, Drywall		
Finishers, Lead		
Abatement Worker (Bridge		
Work).....\$ 32.25	16.62	
Spray, Scaffold and		
Sandblasting.....\$ 35.25	16.62	

PAIN0806-001 10/01/2004

	Rates	Fringes
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Painters:

Structural steel and Bridge.	\$ 42.00	25.37
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PAIN1974-001 07/07/2005

	Rates	Fringes
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Painters:

Drywall Tapers/Pointers.....	\$ 35.32	16.42
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PLAS0260-001 07/01/1999

BRONX, NEW YORK AND RICHMOND COUNTIES:

	Rates	Fringes
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Plasterer.....	\$ 27.91	15.55
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PLAS0260-002 07/01/1999

KINGS AND QUEENS COUNTIES

	Rates	Fringes
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Plasterer.....	\$ 27.91	15.16
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PLAS0530-001 02/04/2004

	Rates	Fringes
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Plasterer		
DRYWALL PLASTERERS.....	\$ 31.00	15.55

PLAS0780-001 07/01/2004

	Rates	Fringes
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Cement Mason.....	\$ 40.00	21.10
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PLUM0001-001 01/01/2005

	Rates	Fringes
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Plumber

JOBING AND ALTERATIONS

Any repair and/or
replacement of the
present plumbing system
that does not change the

existing roughing.....\$ 20.97 7.43

PLUMBERS:.....\$ 42.41 27.95

* PLUM0638-001 12/29/2004

	Rates	Fringes
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Plumber

SERVICE FITTERS.....	\$ 26.30	2.55
SPRINKLER FITTERS,		
STEAMFITTERS.....	\$ 41.82	31.07

Service Fitter work shall consist of all repair, service and maintenance work on domestic, commercial and industrial refrigeration, air conditioning and air cooling, stoker and oil burner apparatus and heating apparatus etc., including but not exclusively the charging, evacuation, leak testing and assembling for all machines for domestic, commercial and industrial refrigeration, air conditioning and heating apparatus. Also, work shall include adjusting, including capacity adjustments, checking and repairing or replacement of all controls and start up of all machines and repairing all defects that may develop on any system for domestic, commercial and industrial refrigeration and all air conditioning, air cooling, stoker and oil burner apparatus and heating apparatus regardless of size or type.

* ROOF0008-003 07/01/2004

	Rates	Fringes
Roofer (including Built Up, Composition and Single Ply)....	\$ 32.08	21.28

* SHEE0028-002 07/28/2005

	Rates	Fringes
Sheet metal worker.....	\$ 40.61	30.89

TEAM0282-001 07/01/2005

	Rates	Fringes
Truck drivers:		
TRUCK DRIVERS:		
Asphalt.....	\$ 31.24	23.6025+a+b
Euclids & Turnapulls.....	\$ 31.80	23.6025+a+b
High Rise.....	\$ 32.31	23.6525+a+b

FOOTNOTES:

PAID HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Election Day, Veterans' Day (Armistice Day), Thanksgiving Day and Christmas Day. Employees working two (2) days in the calendar week in which a holiday falls are to be paid for such holiday, provided that they shape each remaining workday during such calendar week.

b. VACATION: For each 15 days worked within the contract year an employee will receive one day's vacation with pay with a maximum vacation of 3 weeks per year.

 TEAM0813-001 12/01/1998

	Rates	Fringes
Truck drivers:		
GROUP 1.....	\$ 19.49	3.61+a
GROUP 2.....	\$ 19.76	3.61+a
GROUP 3.....	\$ 19.90	3.61+a
GROUP 4.....	\$ 20.23	3.61+a
GROUP 5.....	\$ 20.40	3.61+a
GROUP 6.....	\$ 21.29	3.61+a
GROUP 7.....	\$ 22.40	3.61+a
GROUP 8.....	\$ 19.90	3.61+a

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day, Martin Luther King, Jr.'s Birthday, Presidents' Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Thanksgiving Day, Christmas Day, Employee's Birthday, Two (2) Personal Days, and any holiday or day of mourning proclaimed as such by the State or Federal Government.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Closed body trucks with self contained loading unit up to and including 22 yard capacity

GROUP 2: Open trucks, rack body or trucks with no self contained mechanical loading device, up to 22 yard capacity. One-container tractor hoist

GROUP 3: 10 wheel, open trucks, container loaders, dino-master, over-cab loaders, rack body trucks, or any trucks 22 yards to and including 25 yards capacity

GROUP 4: Rubbish and garbage trucks, 26 yards to and including 31 yards

GROUP 5: Single axle working non-compactor containers up to 15 yards capacity on rubbish and garbage removal

GROUP 6: Roll-off trucks up to and including 42 yard capacity

GROUP 7: Roll-off truck with more than 42 yard capacity or any tractor trailer trucks

GROUP 8: One-container tractor hoist on construction and alteration debris removal

 WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.
 =====

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations

Wage and Hour Division

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

(End of Summary of Changes)

SECTION 00902

FEDERAL CONSISTENCY DETERMINATION/WATER QUALITY
CERTIFICATIONS



May 10, 2001

Mark F. Lulka, Project Biologist
Planning Division - Environmental Branch
CENAN-PI-EA
US Army Corps of Engineers, New York District
26 Federal Plaza
New York, NY 10278-0090

Re: DEC No. 2-6499-00001/00002
Arthur Kill - Howland Hook 40'/41' Deepening Project
Amendment to Water Quality Cert Language

Dear Mr. Lulka:

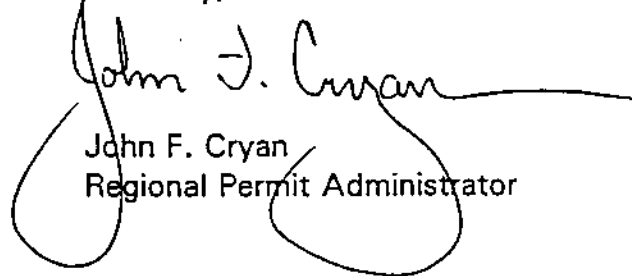
This letter amends language in the above referenced Water Quality Cert. The following special conditions are changed as follows:

1. Special Condition 24 - Mitigation activities shall begin prior to, or concurrently with, commencement of dredging or blasting activity. At least sixty days prior to commencement of the project, the Permittee shall provide final details of the mitigation activities, including access points, haul roads, and erosion controls. Mitigation activities for the purpose of this Water Quality Cert include preliminary plans and specifications drafting, however, actual mitigation construction shall begin no later than the start of dredging/blasting for phase 2 of this project.
2. Special Condition 25.c - Mitigation site monitoring. As discussed in the Final Mitigation Plan dated March 31, 2000, the final monitoring plan shall be modified to incorporate components of the New York State Salt Marsh Restoration and Monitoring Guidelines. Within 30 days of the effective date of this WQ Cert, Army Corps staff shall meet with Program staff to discuss the necessary modifications.

3. Special Condition 27 - The attached "Notice of Intent to Commence Work" must be submitted to the DEC for each Contract Reach (1-4) at the start of work and upon any resumption of work after more than six months of inactivity. At the completion of the work allowed by this permit the attached "Notice of Completion of Work" is to be submitted..

Should you have any questions, please feel free to contact Kathryn D. McGuckin at the above address and phone.

Sincerely,

A handwritten signature in black ink, appearing to read "John F. Cryan". The signature is fluid and cursive, with a long horizontal stroke extending to the right. It is positioned above the printed name and title.

John F. Cryan
Regional Permit Administrator

Attachments:

Notice of Intent to Commence Work
Notice of Completion of Work

CC: S. Zahn, DEC Region 2 Marine Resources
K.D. McGuckin, DEC Region 2 Environmental Permits
DEC Region 2 Division of Law Enforcement

NOTICE OF INTENT TO COMMENCE WORK

Date: _____

New York State
Department of Environmental Conservation
Division of Environmental Permits
47-40 21st Street
Long Island City, NY 11101
Attn: Kathryn D. McGuckin Fax: 718-482-4975

Re: DEC Permit No. 2-6499-00001/00002

Dear Ms. McGuckin:

I hereby serve notice to commence/recommence work on the Contract Reach ____ of the referenced project on or about _____, 200__.

This is also to certify that having read the permit, in entirety, I am fully aware of and understand the general and special conditions and agree to comply in all respects to those requirements. I further understand that prior to undertaking any modification to the authorized project, I must seek and receive approval of the Regional Permit Administrator.

Very truly yours,

Signature of the Permittee

Signature of the Contractor (if any)

Permittee's Name (Printed)

Contractor's Name (Printed)

Permittee's Address:

Contractor's Address:

Telephone #

Telephone #

NOTICE

The permittee and his contractor (if any) are required to follow all permit conditions. Violations of the permit may lead to legal action, including the imposition of substantial monetary fines and corrective work.

New York State Department of Environmental Conservation

Division of Environmental Permits, Region 2

47-40 21ST Street, Long Island City, NY 11101-5407

Phone: (718) 482-4997 • FAX: (718) 482-4975

Website: www.dec.state.ny.us



Mike Millard, Project Manager
Mark F. Lulka, Project Planner
US Army Corps of Engineers, Planning Division
26 Federal Plaza
New York, NY 10278-0090

April 20, 2001

Re: DEC Permit No. 2-6499-00001/00002
USACOE -- Arthur Kill - Howland Hook 40'/41' Deepening Project
6 NYCRR Part 608 Water Quality Certification
NOTICE OF PERMIT ISSUANCE

Dear Messrs. Millard and Lulka:

Enclosed is your permit for the Arthur Kill - Howland Hook 40'/41' Deepening Project. Please read all conditions carefully and be sure to notify DEC promptly if you change any of the project plans. Please also provide copies of this permit to all employees, contractors and agents performing any part of the permitted work.


This water quality certificate and its conditions were a result of a concerted effort by all involved parties to protect natural resources while allowing for timely completion of the project. Please make this document available to all bidders in color so there is no confusion about the locations of areas with restricted dredging windows. Please notify DEC of all pre-construction meetings, as Department staff would like to attend. Also, please insure that the copy of this permit kept at the site is a color copy; extra color copies have been enclosed for this purpose.

The corps mentioned in meetings on April 3rd and 6th that there is a "no float" in Contract Area 1A and that a one-week slip in the start date or execution of Contract Area 1A will increase the schedule by five months. At this time, based on the information at hand, the Department does not foresee the possibility of further adjustments to the dredging windows. Therefore, the Department requests the Corps to prepare contingency plans for completing the work in Contract Area 1A should the start date or execution of Contract Area 1A be delayed.

Please note that Special Condition No. 27 requires the Department to be notified in writing of the start of work, any resumption of work after more than six months of inactivity, and upon completion of work for each contract reach (Nos. 1 through 4).

If you have any questions, please contact Kathryn D. McGuckin at the above address, or by telephone at (718) 482-4078.

Very truly yours,


John F. Cryan
Regional Permit Administrator

cc: Capt. T. Revellia
S. Zahn

A:\PermitLtr.wpd

DEC PERMIT NUMBER

2-6499-00001/00002

FACILITY/PROGRAM NUMBER(S)

USACE Arthur Kill 40'/41' Deepening



PERMIT

Under the Environmental Conservation
Law (ECL)

EFFECTIVE DATE

April 20, 2001

EXPIRATION DATE(S)

April 20, 2006

TYPE OF PERMIT ☒ New ☐ Renewal ☐ Modification ☐ Permit to Construct ☐ Permit to Operate

- | | | |
|--|---|--|
| <input type="checkbox"/> Article 15, Title 5: Protection of Waters | <input checked="" type="checkbox"/> 6NYCRR 608: Water Quality Certification | <input type="checkbox"/> Article 27, Title 7; 6NYCRR 360: Solid Waste Management |
| <input type="checkbox"/> Article 15, Title 15: Water Supply | <input type="checkbox"/> Article 17, Titles 7, 8: SPDES | <input type="checkbox"/> Article 27, Title 9; 6NYCRR 373: Hazardous Waste Management |
| <input type="checkbox"/> Article 15, Title 15: Water Transport | <input type="checkbox"/> Article 19: Air Pollution Control | <input type="checkbox"/> Article 34: Coastal Erosion Management |
| <input type="checkbox"/> Article 15, Title 15: Long Island Wells | <input type="checkbox"/> Article 24: Freshwater Wetlands | <input type="checkbox"/> Article 36: Floodplain Management |
| | <input type="checkbox"/> Article 25: Tidal Wetlands | |

PERMIT ISSUED TO

US ARMY CORPS OF ENGINEERS

TELEPHONE NUMBER

(718) 760-6617

ADDRESS OF PERMITTEE

JACOB K. JAVITS FEDERAL BUILDING, NEW YORK, NY 10278-0090

CONTACT PERSON FOR PERMITTED WORK

MIKE MILLARD - PROJECT MANAGER OR
MARK F. LULKA - PROJECT PLANNER

TELEPHONE NUMBER

(212) 264-2054
(212) 264-5818

NAME AND ADDRESS OF PROJECT/FACILITY

ARTHUR KILL HOWLAND HOOK MARINE TERMINAL 41'/40' DEEPENING

LOCATION OF PROJECT/FACILITY

NORTH AND WEST SHORE OF STATEN ISLAND FROM THE CONFLUENCE WITH THE KILL VAN KULL TO THE TOSCO REFINERY.

COUNTY

RICHMOND

CITY

NEW YORK CITY

WATERCOURSE

ARTHUR KILL

NYTM COORDINATES

E 567.0 N 4492.0

DESCRIPTION OF AUTHORIZED ACTIVITY: Deepening and navigational improvements to the Arthur Kill/Howland Hook Channel - from 35 feet to 40 feet from GATX to Howland Hook Terminal; and, from 35 feet to 41 feet between Howland Hook and the confluence with the Kill Van Kull. Approximately 3.25 million cubic yards of sediment, rock and clay must be removed by dredging and blasting.

By acceptance of this permit, the Permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, the General Conditions specified (see page 2) and any Special Conditions included as part of this permit.

REGIONAL PERMIT ADMINISTRATOR:

John F. Cryan

ADDRESS

47-40 21 Street
Long Island City, NY 11101

AUTHORIZED SIGNATURE

DATE

April 20, 2001

Page 1 of 6

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification

The permittee has accepted expressly, by the execution of the application, the full legal responsibility for all damages and costs, direct or indirect, of whatever nature and by whomever suffered, for liability it incurs resulting from activity conducted pursuant to this permit or in noncompliance with this permit and has agreed to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from such activity.

Item B: Permittee to Require its Contractors to Comply with Permit

The permittee shall require its independent contractors, employees, agents and assigns to read, understand and comply with this permit, including all special conditions, and such persons shall be subject to the same sanctions for violations of this permit as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits

The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required for this project.

Item D: No Right to Trespass or Interfere with Riparian Rights

This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

GENERAL CONDITIONS

General Condition 1: Facility Inspection by the Department

The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71-0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when written or verbal notification is provided by the Department at least 24 hours prior to such inspection.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

General Condition 2: Relationship of this Permit to Other Department Orders and Determinations

Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

General Condition 3: Request for Permit Renewals or Modifications

The permittee must submit a separate written request to the Department for renewal, modification or transfer of this permit. Such request must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing.

The permittee must submit a renewal request at least:

- a) 180 days before expiration of permits for State Pollutant Discharge Elimination System (SPDES), Hazardous Waste Management Facilities (HWMF), major Air Pollution Control (APC) and Solid Waste Management Facilities (SWMF); and
- b) 30 days before expiration of all other permit types.

Request for permit renewal or modification are to be submitted to:

NYSDEC, Regional Permit Administrator, Region 2
47-40 21ST Street, Long Island City, NY 11101

General Condition 4: Permit Modifications, Suspensions and Revocations by the Department

The Department reserves the right to modify, suspend or revoke this permit when:

- a) the scope of the permitted activity is exceeded or a violation of any condition of the permit or provisions of the ECL and pertinent regulations is found;
- b) the permit was obtained by misrepresentation or failure to disclose relevant facts;
- c) new material information is discovered; or
- d) environmental conditions, relevant technology, or applicable law or regulation have materially changed since the permit was issued.

DEC PERMIT NUMBER 2-6499-00001/00002	PROGRAM/FACILITY NUMBER USACE Arthur Kill 40'/41' Deepening	PAGE <u>2</u> OF <u>6</u>
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ADDITIONAL GENERAL CONDITIONS FOR ARTICLES 15,17, 24, 25, and 6 NYCRR Part 608

- 5: That if future operations by the State of New York require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Department of Environmental Conservation it shall cause unreasonable obstruction to the free navigation of said waters or flood flows or endanger the health, safety or welfare of the people of the State, or cause loss or destruction of the natural resources of the State, the owner may be ordered by the Department to remove or alter the structural work, obstructions, or hazards caused thereby without expense to the State, and if, upon the expiration or revocation of this permit, the structure, fill, excavation, or other modification of the watercourse hereby authorized shall not be completed, the owners, shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may require, remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable and flood capacity of the watercourse. No claim shall be made against the State of New York on account of any such removal or alteration.
- 6: That the State of New York shall in no case be liable for any damage or injury to the structure or work herein authorized which may be caused by or result from future operations undertaken by the State for the conservation or improvement of navigation, or for other purposes, and no claim or right to compensation shall accrue from any such damage.
- 7: Granting of this permit does not relieve the applicant of the responsibility of obtaining any other permission, or approval from the U.S. Army Corps of Engineers, U.S. Coast Guard, New York State Office of General Services, or local government which may be required.
- 8: All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate, or any other environmentally deleterious materials associated with the project
- 9: Any material dredged in the conduct of the work herein permitted shall be removed evenly, without leaving large refuse piles, ridges across the bed of a waterway or floodplain or deep holes that may have a tendency to cause damage to navigable channels or to the banks of a waterway.
- 10: There shall be no unreasonable interference with navigation by the work herein authorized.
- 11: If upon the expiration or revocation of this permit, the project hereby authorized has not been completed, the applicant shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may require, remove all or any portion of the uncompleted structure or fill and restore the site to its former condition. No claim shall be made against the State of New York on account of any such removal or alteration.
- 12: If granted under Article 36, this permit does not signify in any way that the project will be free from flooding.
- 13: If granted under 6 NYCRR Part 608, the NYS Department of Environmental Conservation hereby certifies that the subject project will not contravene effluent limitations or other limitations or standards under Sections 301, 302, 303, 306, and 307 of the Clean Water Act of 1977 (PL 95-217) provided that all of the conditions listed herein are met.

DEC PERMIT NUMBER 2-6499-00001/00002	PROGRAM/FACILITY NUMBER USACE Arthur Kill 40'/41' Deepening	PAGE <u>3</u> OF <u>6</u>
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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPECIAL CONDITIONS

- 14: Dredging and construction shall be performed according to the following documents:
 - a. Final Mitigation Plan for Arthur Kill - Howland Hook Marine Terminal Deepening Project, 40/41 Plan, dated March 31, 2000.
 - b. Final Limited Reevaluation Report and Final Supplemental Environmental Impact Statement - Arthur Kill - Howland Hook Marine Terminal, dated December 1997.
 - c. Draft FONSI/Draft EA for the Selection of Potential Dredged Material Placement Sites- Arthur Kill - Howland Hook Marine Terminal, dated January 2000.
- 15: A bathymetric survey (no more than 6 months old) for each contract reach shall be provided to DEC at least sixty (60) days prior to the anticipated dredging start date for a given reach. A post dredge survey shall be submitted to DEC within ninety (90) days of the completion of dredging for each contract reach.
- 16: Design drawings indicating the sediment type and volume to be dredged within each contract reach shall be provided to DEC at least 90 days prior to the anticipated dredging start date for a given reach.
- 17: A sediment sampling plan for purposes of conducting bulk sediment chemistry analysis for each contract reach shall be submitted for DEC approval in coordination with the state of New Jersey at least 60 days prior to the anticipated dredging start date for a given reach.
- 18: Sediment test results shall be submitted at least 30 days prior to the anticipated dredging start date of any project contract reach to verify the applicability of the restrictions stated in Special Condition #22.
- 19: At least thirty days prior to the start of dredging, the Permittee shall identify the disposal locations(s) for each type of material to be dredged, and submit this information to the Department in writing.
- 20: Between 1 April and the end of the first week of May, a qualified biologist, selected by the Permittee and agreed upon by the Department, shall inspect Shooter's Island for the presence of nesting activity by herons or egrets. This inspection shall be conducted once each year that dredging/blasting is expected to occur within 1,000 feet of Shooter's Island. Upon completion of the inspection, Permittee shall submit a written inspection report to Dawn McReynolds at the NYS DEC Region 2 office.
 - a. If no active nests are observed, avian protective measures will not be required.
 - b. If nesting is confirmed, the following protective measures shall be implemented:
 - i. No blasting and/or dredging activity shall occur within 1,000 feet of Shooter's Island from 1 April - 31 July.
 - ii. The Permittee shall use marker buoys every 200 feet or less (except within the existing federal channel) to indicate the 1,000 foot restricted area.
- 21: A certified Army Corps of Engineers inspector shall monitor project operations regularly, and is responsible for ensuring that the project is being conducted in compliance with Special Conditions 22 and 23 of this Water Quality Certificate.

DEC PERMIT NUMBER 2-6499-00001/00002	PROGRAM/FACILITY NUMBER USACE Arthur Kill 40'/41' Deepening	PAGE 4 OF 6
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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

- 22: To protect winter flounder, dredging and blasting is limited as follows in the 'areas of concern' depicted in green on the attached Appendix 1 map.
- a. Dredging of silt is prohibited in the areas of concern between 01 February and 31 May.
 - b. Dredging and blasting of non-silt material is prohibited in the areas of concern between 01 March and 31 May.
- 23: An 'environmental bucket' is required for dredging silt and/or other fine-grained unconsolidated material. Drawings and performance specifications of the environmental bucket must be provided to the Department 15 days prior to the anticipated start date of dredging.
- a. The following bucket specifications are required:
 - i. The bucket shall be constructed with sealing gaskets or overlapping sealed design at the jaws, and seals or flaps positioned at locations of vent openings to minimize the loss of material during transport through the water column and into the barge.
 - ii. Any seals or flaps designed and/or installed at the jaws and locations of vent openings must tightly cover these openings while the bucket is lifted through the water column and into the barge. If excessive loss of water and/or sediments from the bucket is observed from the time of its breaking the water surface to crossing the barge gunwale, the inspector shall halt dredging operations and inspect the bucket for defects. Operations shall be suspended until all necessary repairs or replacements are made.
 - b. Bucket hoist speed shall be limited to approximately 2 feet per second. The bucket shall be lifted in a continuous motion through the water column and into the barge.
 - c. The bucket shall be lowered to the level of the barge gunwales prior to the release of load.
 - d. There shall be no barge overflow when dredging silt and/or other fine-grained unconsolidated material.
- 24: Mitigation activities shall begin prior to, or concurrently with, commencement of dredging or blasting activity. At least sixty days prior to commencement of the project, the Permittee shall provide final details of the mitigation activities, including access points, haul roads, and erosion controls.
- 25: At least sixty days prior to the commencement of the project, the Permittee shall consult with DEC staff on development of the following required monitoring programs:
- a. An analysis of vessel-generated wake impacts on shoreline erosion. Said analysis shall include an assessment of pre- and post-construction shoreline conditions and wake environment in the project area.
 - b. Impacts to benthic habitat. A pre- and post-construction assessment of benthic habitat and benthic utilization of the deepened areas of the channel. Said analysis shall include physical characterization

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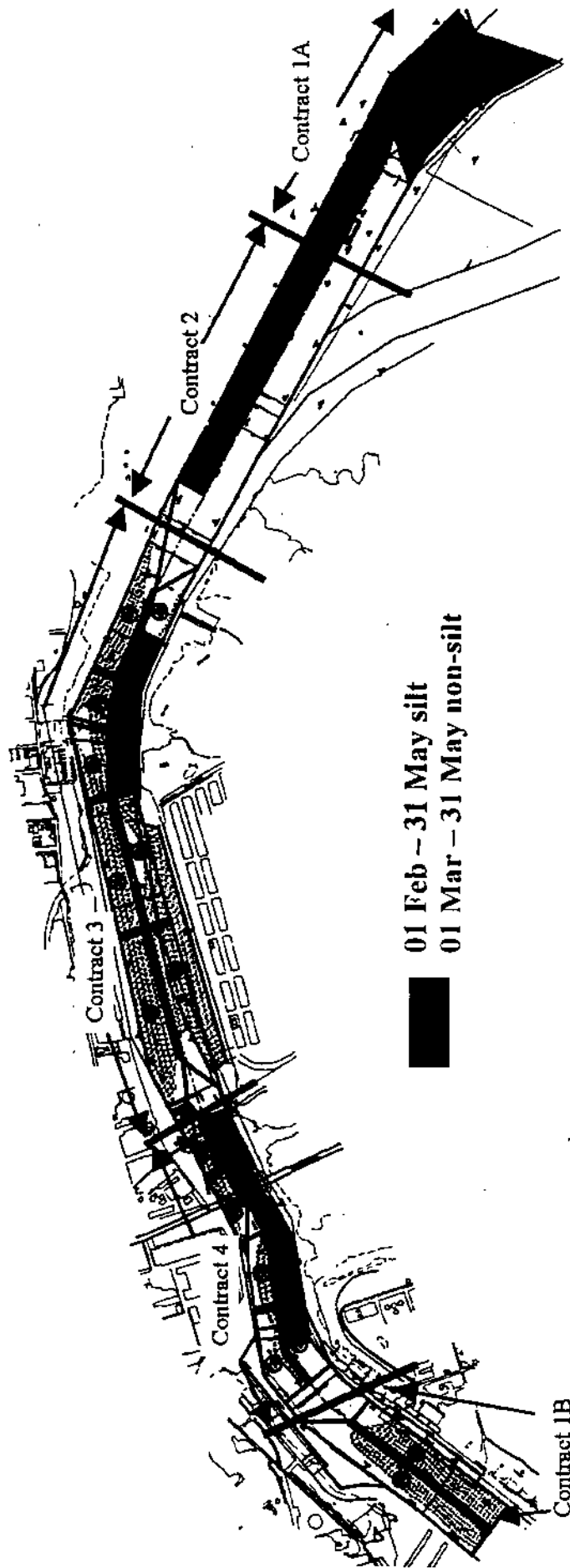
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

of bottom substrate, a description of the benthic community, and an assessment of Winter Flounder spawning activity and Blue Crab overwintering activity.

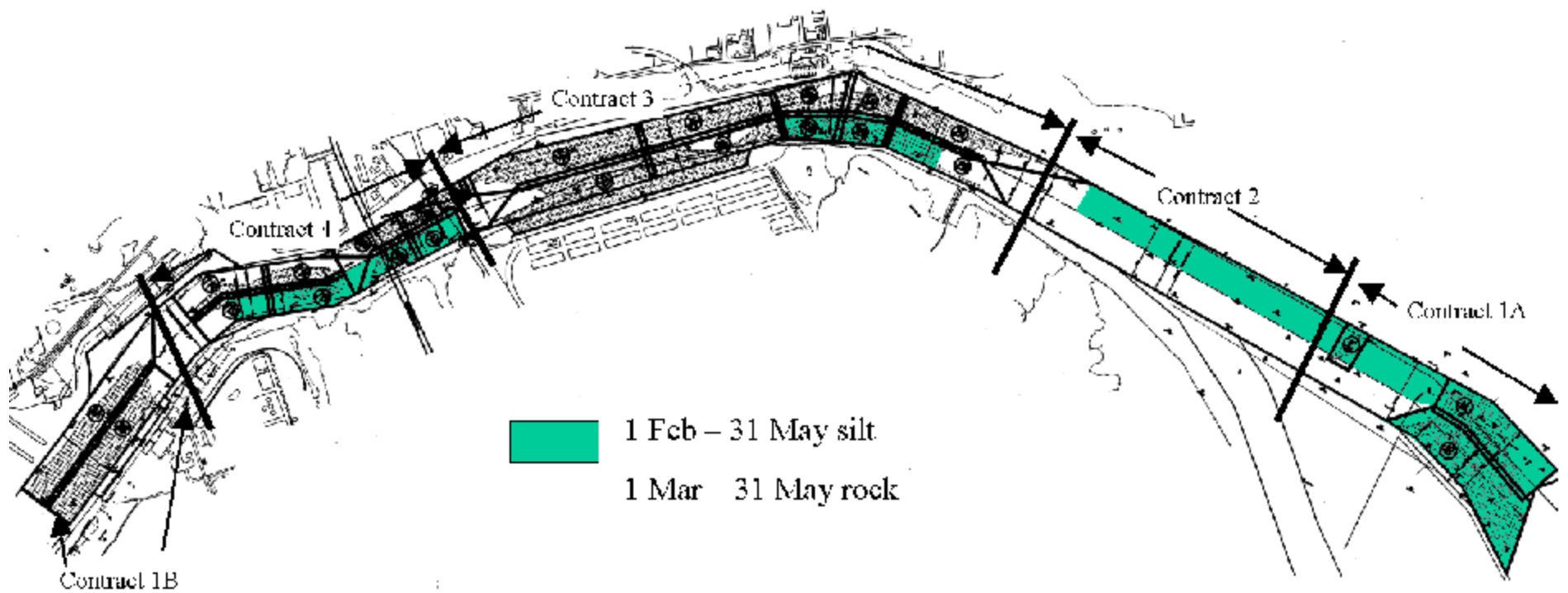
- c. Mitigation site monitoring. As discussed in the Final Mitigation Plan dated May 19, 2000, the final monitoring plan shall be modified to incorporate components of the New York State Salt Marsh Restoration and Monitoring Guidelines. Within 30 days of the effective date of this WQ Cert, Army Corps staff shall meet with Program staff to discuss the necessary modifications.
- 26: Item A and General Condition 6 are included by the State of New York as the permit issuing authority under the Clean Water Act. Such conditions do not, nor are they intended to, apply to, abrogate, or annul any obligation, responsibility or liability on the part of the Port Authority of New York and New Jersey to the Federal Government under the terms of a Project Cooperation Agreement (PCA) entered into by those two agencies for the Arthur Kill-Howland Hook Terminal, New York and New Jersey Project. Pursuant to that PCA, the Port Authority of New York and New Jersey remains legally responsible to hold and save the Federal Government free from all damages arising from the construction, operation, and maintenance of the Project and the local service facilities, and if the Port Authority requests such, for any Project-related betterments, including liabilities arising from Item A and General Condition 6, except for damages due to the fault or negligence of the Federal Government or its contractors. No provision of this permit shall be deemed to supercede applicable federal law with regard to appropriation of funds or liability for damages caused by the Army Corps or its agents or other representatives.
- 27: Notification in writing to the DEC for each Contract Reach (1-4) is to be given at the start of work, upon any resumption of work after more than six months of inactivity, and the completion of work allowed by this permit.

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Appendix 1
DEC Permit Number 2-6499-00001/00002



Appendix 1- Page 00903-15
DEC Permit Number 2-6499-00001/00002





DEPARTMENT OF STATE

George E. Pataki
Governor
Alexander F. Treadwell
Secretary of State

Division of
Coastal Resources
41 State Street
Albany, NY 12231-0001

May 4, 1999

Frank Santamauro, Chief
Planning Section, New York District
U.S. Army Corps of Engineers
26 Federal Plaza
New York, NY 10278-0090

Re: F-99-237
COE/NY - Arthur Kill Channel-Howland Hook Marine
Terminal, Richmond/NYC

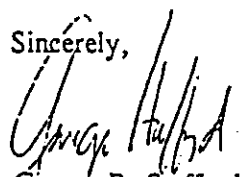
Dear Mr. Santamauro:

The Department of State has completed its review of the U.S. Army Corps of Engineers consistency determination with respect to the New York State Coastal Management Program, together with supporting documentation, for the proposed deepening and navigational improvements to the Arthur Kill/Howland Hook Channels.

Based upon the project information submitted, the Department of State agrees with the U.S. Army Corps of Engineers consistency determination for this activity.

Thank you for your cooperation in this matter.

Sincerely,


George R. Stafford
Director

GRS:VAB:dlb

00903-18



Maine Office:
451 Presumpscot Street
Portland, ME 04103

New York Office:
Village Square, 33 Church Street
Fredonia, NY 14063

Pennsylvania Office:
22 Broad Street, P.O. Box 619
Delaware Water Gap, PA 18327

FINAL
HTRW CHARACTERIZATION
BROOKLYN UNION GAS (BUG) SITE
SALT MARSH MITIGATION PROJECT
RICHMOND COUNTY, STATEN ISLAND,
NEW YORK

Contract Number: DACW51-01-D-0017
Delivery Order No. 0023

Prepared for:

U.S. Army Corps of Engineers
New York District
26 Federal Plaza
New York, New York 10278-0090

Prepared by:

AMEC Earth & Environmental
285 Davidson Avenue, Suite 100
Somerset, NJ 08873

Northern Ecological Associates, Inc.

JANUARY 2004

EXECUTIVE SUMMARY

The U.S. Army Corps of Engineers-New York District (USACE-NYD) is performing planning and engineering design activities in support of wetland mitigation at the former Brooklyn Union Gas (BUG) site in Staten Island, NY to compensate for unavoidable impacts associated with the Arthur Kill Howland Hook Marine Terminal 41/40 Deepening Project. The basic goal of the mitigation is to enhance, restore and create intertidal low marsh. As part of that study, the USACE-NYD requires that a targeted, subsurface investigation be performed to assess the possible presence of hazardous, toxic, and radioactive waste (HTRW) in soils requiring excavation to establish design grade for the mitigation project. These data will guide decision-making relative to subsequent reuse and/or disposal actions associated with excavated soils.

Working under contract DACW51-01-D-0017 between Northern Ecological Associates, Inc. (NEA) and the USACE-NYD, AMEC Earth & Environmental, Inc. (AMEC) coordinated laboratory analysis of soil samples collected by the USACE-NYD, and subsequently performed additional soil sample collection, at sixteen locations within the project area. The samples collected from each location were analyzed for Target Compound List (TCL) volatile organic compounds (VOC+10), TCL semi-volatile organic compounds (SVOC+15), Priority Pollutant Metals, polychlorinated biphenyls (PCBs), total cyanide, and total phenols.

No VOCs, or PCBs were detected in the laboratory samples at concentrations above the applicable New York State Department of Environmental Conservation (NYSDEC) Soil Cleanup Criteria. Elevated concentrations of arsenic and mercury were found to be ubiquitous, and a range of SVOC compounds (polycyclic aromatic hydrocarbons or PAHs) were detected at approximately half of the sampling locations. In most cases, the elevated PAH and metals concentrations are present at a level that is typical of historic fill associated with urbanized areas.

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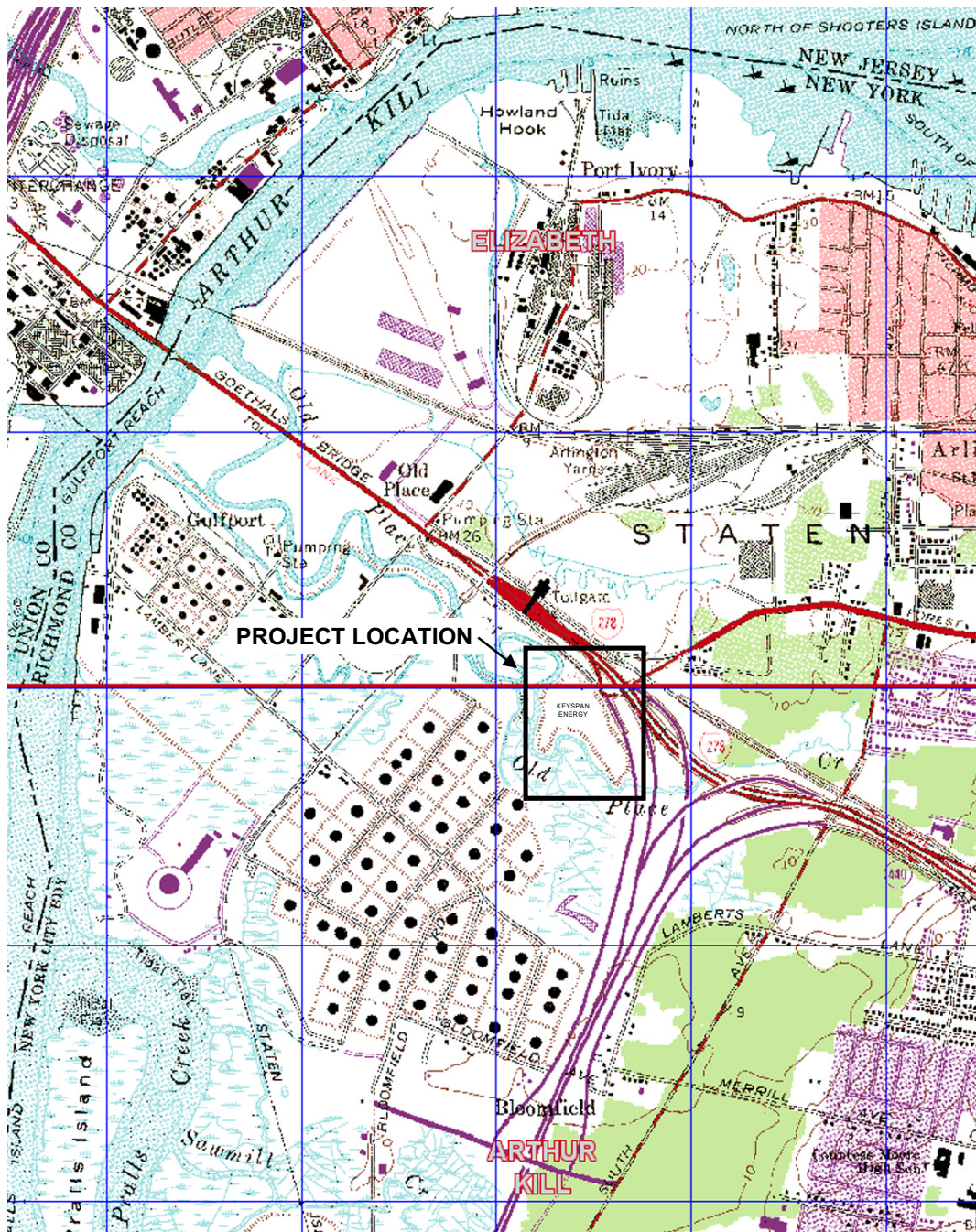
1.0 INTRODUCTION

The Brooklyn Union Gas (BUG) site mitigation project is being performed to compensate for unavoidable wetland and aquatic habitat impacts associated with the Arthur Kill Channel Howland Hook Marine Terminal Deepening Project 40/41 Plan. The channel deepening and realigning is proposed between the confluence of the Arthur Kill and Newark Bay and the Howland Hook Marine Terminal (~ 2.1 miles). Additionally, channel deepening and realigning is proposed between Howland Hook Marine Terminal and the Gulfport Reach (~ 1-mile). The proposed Arthur Kill Channel Howland Hook Marine Terminal Deepening Project 40/41 Plan would permit two-way traffic of deep draft vessels within the project corridor. Permanent and direct impacts resulting from construction and operation of the project include conversion of 0.53-acres of beach, 10.68-acres of mudflat, and 0.08-acres of salt marsh to deepwater habitat. These impacts are located both in New York and New Jersey. The BUG site was selected as the New York mitigation location.

The BUG site presently contains four distinct habitat types: (1) mudflat, (2) *Spartina alterniflora/cynosuroides*, *Spartina patens*, *Distichlis spicata*, *Salicornia sp.* intertidal marsh, (3) *Phragmites australis* marsh below, at and above the Mean High Water (MHW) elevation, and (4) disturbed uplands dominated by Mugwort (*Artemisia vulgaris*), Japanese Knotweed (*Polygonum cuspidatum*), Russian Olive (*Elaeagnus commutata*), Multiflora Rose (*Rosa multiflora*), and Tree-of-Heaven (*Ailanthus altissima*).

The basic goal of the mitigation project is to enhance, restore and create as much intertidal low marsh as possible. The first step in the process is identifying and benchmarking the high and low elevational occurrences of the target low marsh communities both on and nearby the project site. These benchmark elevations in conjunction with on-site tide range data will be used to set the base elevations within the restoration area. Enhancement, restoration and creation will be achieved through a combination of invasive/exotic vegetation eradication/control and lowering existing site elevations to match the target community's high and low elevational tolerances. In general present site elevations ranging from 4.0 to 7.0 would be excavated and regraded down to elevations 2.0 to 2.5 to achieve low marsh and 2.5 to 3.0 to achieve high marsh.

One component of the planning for restoration activity includes the sampling and laboratory analysis of soils that require excavation to achieve design grades associated with mitigation. The objective of the sampling and analysis program is to evaluate the need for special handling of excavated materials, through comparison of the HTRW constituent concentrations with regulatory agency soil cleanup criteria (*i.e.*, New York State Department of Environmental Conservation (NYSDEC) Recommended Soil Cleanup Objectives). This report describes the soil sampling effort performed in support of this objective, and provides the results of laboratory analysis of recovered soil samples. Section 2 provides a description of the soil sampling activity, Section 3 provides the results of laboratory analysis, Section 4 provides a discussion of excavated soil disposition alternatives, and Section 5 provides a list of references. Appendix A contains the full laboratory analytical data reports on CD-ROM.



Scale: 1: 24,000 (1 inch = 2,000 ft)

Source: U.S. Geological Survey, 7.5 Minute Topographic Series; Elizabeth, NJ-NY; Arthur Kill, NY-NJ

Figure 1
Regional Project Location Map
Brooklyn Union Gas (BUG) Wetland Mitigation Project
Staten Island, NY

USACE - Planning Division
Environmental Analysis Branch, New York District
DACW51-01-D-0017



Earth & Environmental

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2.0 SAMPLE COLLECTION AND ANALYSIS

The investigation was performed in accordance with the project Scope of Work: ***Wetland Mitigation HTRW for the BUG Site, Staten Island, NY, for the Arthur Kill-Howland Hook Marine Terminal 41/40 Deepening Project***, dated June 2003. The project objectives and sampling procedures pertaining to this investigation are reviewed below.

2.1 PROJECT OBJECTIVES

The objectives of this investigation were to: (1) collect sixteen (16) sub-surface soil samples for laboratory analysis of HTRW parameters, (2) perform laboratory analysis of recovered samples for Target Compound List (TCL) volatile organic compounds (VOC+10), TCL semi-volatile organic compounds (SVOC+15), Priority Pollutant Metals, polychlorinated biphenyls (PCBs), total cyanide, and total phenols, and (3) evaluate laboratory analytical results relative to applicable regulatory agency soil cleanup criteria.

2.2 SOIL SAMPLING

Sixteen soil samples were initially collected by USACE-NYD personnel on October 1-2, 2003 (sample locations BUG-1, BUG-4 through BUG-8, and BUG-11 through BUG-20). In addition, a composite sample (homogenized aliquots from all samples) was specified for analysis, and two aqueous samples were collected for VOC analysis from two surface water features on-site ("Pond-BUG" and "Hole-BUG"). Field (rinsate) blank and trip blank samples were also obtained during this sampling event. During this field mobilization, AMEC personnel coordinated delivery and retrieval of sample containers to the field, and completed sample Chains-of-Custody for delivery to the analytical laboratory.

Due to an internal laboratory miscommunication, full sample analysis was not performed on all samples recovered from the October field mobilization (the composite soil sample, the two aqueous samples, and the field blank and trip blank were analyzed for all specified parameters, but discrete soil samples were not analyzed). Due to the fact that this error was not detected until method-specific holding times had been exceeded for most of the specified analyses, a second field sampling mobilization was necessitated. AMEC personnel resampled all initial sample locations on December 18, 2003; field blank, trip blank, duplicate, matrix spike, and matrix spike duplicate samples were also obtained during that sampling event.

During both sampling events, soil samples were obtained using decontaminated stainless steel hand-augers and/or trowels. The depth of sample acquisition varied at each location (based on surface elevation¹), but in all cases ranged between the 0-6 in. and 18-24 in. increments below ground surface. Sample locations are indicated on Figure 2, and approximate survey coordinates for each location are provided in Table 2-1.

¹ All samples were obtained within the interval between existing grade and final design grade (the latter ranging between 2.2-3.0 ft MSL).

Table 2-1. Soil Boring Location Coordinates

Sample Location	Easting (ft) [a]	Northing (ft) [a]
BUG-1	934,844	166,050
BUG-4	934,508	166,388
BUG-5	934,599	166,268
BUG-6	934,365	166,524
BUG-7	934,264	166,595
BUG-8	934,021	166,528
BUG-11	934,107	166,591
BUG-12	933,948	166,325
BUG-13	933,931	166,360
BUG-14	933,881	166,579
BUG-15	933,951	166,725
BUG-16	933,938	166,885
BUG-17	933,945	166,999
BUG-18	934,054	167,074
BUG-19	934,217	167,208
BUG-20	934,286	167,290

[a] NAD 83, NY-Long Island

2.3 LABORATORY ANALYSIS

A summary of the sample analytical requirements for this investigation is provided in Table 2-2. Chain-of-custody documentation was maintained for all samples collected in the field. Samples were chilled in coolers immediately following collection, and were maintained at a temperature of 4° C pending shipment to the laboratory. The samples were delivered to the laboratory (STL Edison, 777 New Durham Road, Edison, NJ) by AMEC personnel on October 2, 2003 and December 18, 2003. STL Edison is a USACE-MRD certified laboratory and is also certified by the state of New York (N.Y. Cert. # 14522).

The laboratory analyses were performed in accordance with the United States Environmental Protection Agency (USEPA) Test Methods for Evaluating Solid Wastes (SW-846, 3rd Edition). The specific USEPA laboratory analytical methods and associated sample holding protocols specified for this project are listed in Table 2-3.

Laboratory analyses of samples obtained during the October 1-2 mobilization were initially reported in laboratory data package Q405 dated November 11, 2003. This data package included the full suite of project analytes for the soil composite sample and the field blank (the latter excluding only VOC analysis), and VOC analysis for the trip blank and the two aqueous samples. Data package U542, dated December 12, 2003, reported the results of Priority Pollutant metals analysis of the soil samples obtained during the October 1-2 mobilization (BUG-1 through BUG-20). Laboratory analyses of samples obtained during the December 18 mobilization were reported in data package V274, dated January 27, 2004. This data package included the results of VOC, SVOC, PCB, total cyanide and total phenol analyses for all samples, as well as the results of trip blank, field blank, and duplicate analyses. All laboratory data reports are contained on CD-ROM in Appendix A.



Table 2-2. Summary of Sample Analytical Requirements

Sample Designation	Sample Matrix	Sample Quantity	Sample Analytical Parameters	Field QA/QC Samples	Laboratory QA/QC Samples
BUG-1, BUG-4 through BUG-8, BUG-11 through BUG-20	Soil	16	TCL-VOC+10 TCL-SVOC+15 PP Metals PCBs Total Phenols Total Cyanide	1 Trip Blank 1 Field (Rinsate) Blank 1 Duplicate	1 Matrix Spike / Matrix Spike Duplicate

Table 2-3. Sample Preservatives, Holding Times, and Sample Container Requirements

Analytical Parameters	Sample Matrix	USEPA Analytical Method	Sample Preservation	Maximum Sample Holding Times	Container (number per sample)
TCL VOC	Soil	8260	Cool 4° C	14 days	(1) 40 ml VOA vial. Teflon®-lined cap
TCL SVOC	Soil	8260	Cool 4° C	14 days	(1) 60 ml VOA vial. Teflon®-lined cap
PP Metals	Soil	6010 7471 ¹	Cool 4° C	180 days 26 days ¹	(1) Glass, wide-mouth, 8 oz
PCBs	Soil	8082	Cool 4° C	Extraction: 14 days Analysis: 40 days	(1) Glass, wide-mouth, Teflon® lined cap, 8 oz
Phenols	Soil	8041	Cool 4° C	Extraction: 7 days Analysis: 40 days	(1) Glass, wide-mouth, 8 oz
Cyanide	Soil	9012A	Cool 4° C	14 days	(1) Glass, wide-mouth, 8 oz

¹ Mercury.

3.0 LABORATORY ANALYTICAL RESULTS

The laboratory analytical results associated with soil samples obtained from the project site are discussed in the following sections. Summary analytical tabulations are contained in Tables 3-1 (VOCs), 3-2 (SVOCs), 3-3 (metals), and 3-4 (PCBs, phenols, cyanide). The summary analytical data tabulations compare the concentration of detected constituents to NYSDEC Soil Cleanup Criteria (Division Technical Administrative Guidance Memorandum (TAGM) on Determination of Soil Cleanup Objectives and Cleanup Levels (HWR-94-4046); 24 January 1994).

3.1 VOLATILE ORGANIC COMPOUNDS

The laboratory analytical results for VOCs are summarized in Table 3-1. All non-qualified VOCs were detected at concentrations below the NYSDEC Recommended Soil Cleanup Objective (RSCOs). The composite sample, and soil samples BUG-5, BUG-6, BUG-7, BUG-8, BUG-11, BUG-12, BUG-14, BUG-15, BUG-16, BUG-17, BUG-18, and BUG-19 exhibited estimated ("J" qualified) and/or blank contaminated ("B" qualified) concentrations of methylene chloride ranging from 1.1-7.8 ug/Kg. Soil samples BUG-1, BUG-7, BUG-8, BUG-16, BUG-18, BUG-19, and BUG-20 exhibited estimated ("J" qualified) and non-qualified concentrations of trichloroethene ranging from 0.5-3.6 ug/Kg. Benzene was detected at an estimated ("J" qualified) concentration of 0.9 ug/Kg at BUG-5. Toluene was detected at estimated ("J" qualified) concentrations of 1.6 ug/L and 2.6 ug/L at BUG-5 and BUG-16, respectively.

3.2 SEMI-VOLATILE ORGANIC COMPOUNDS

The laboratory analytical results for SVOCs are summarized in Table 3-2. Detected constituents consisted almost entirely of polycyclic aromatic hydrocarbons (PAHs), and in many cases, the PAH concentrations exceeded the NYSDEC RSCOs (composite sample, BUG-1, BUG-4, BUG-5, BUG-6, BUG-8, BUG-17, BUG-20). The PAHs (primarily Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, benzo(k)-fluoranthene, Indeno(1,2,3-cd)pyrene, Dibenzo(a,h)-anthracene, fluoranthene, pyrene, chrysene) are commonly formed as a result of the incomplete combustion of coal and other organic materials. Consequently PAHs are routinely encountered in fill that contains coal ash and/or burned domestic refuse. No VOCs were detected in the two aqueous samples obtained at the site ("Pond-BUG" and "Hole-BUG").

Phenanthrene exhibited a concentration of 61,000 ug/Kg, in excess of the NYSDEC RSCO of 50,000 ug/Kg, at sample location BUG-4. Fluoranthene was detected at a concentration of 74,000 ug/Kg, in excess of the RSCO of 50,000 ug/Kg at BUG-4. Pyrene was detected at a concentration of 94,000 ug/Kg, in excess of the RSCO of 50,000 ug/Kg at BUG-4. Benzo(a)anthracene was found to be in excess of the RSCO (224 ug/Kg) ranging from 2,000-39,000 ug/Kg in the composite sample and at sample locations BUG-1, BUG-4, and BUG-5. Chrysene exhibited concentrations ranging from 3,100-38,000 ug/Kg in the composite sample and at sample locations BUG-1, BUG-4, and BUG-5, in excess of the NYSDEC RSCO of 400 ug/kg. Benzo(b)fluoranthene exhibited concentrations ranging from 1,800-29,000 ug/Kg in the composite sample and samples BUG-1, BUG-4, and BUG-5, in excess of the NYSDEC RSCO of 1,100 ug/Kg.

Benzo(k)fluoranthene exhibited concentrations ranging from 2,600-35,000 ug/kg in the composite sample and samples BUG-1, BUG-4, and BUG-5, in excess of the NYSDEC RSCO of 1,100 ug/Kg. Benzo(a)pyrene exhibited concentrations ranging from 72-35,000 ug/Kg in the composite sample and samples BUG-1, BUG-4, BUG-5, BUG-6, BUG-8, BUG-17, and BUG-20,

in excess of the NYSDEC RSCO of 61 ug/Kg. Indeno(1,2,3-cd)pyrene exhibited a concentration of 17,000 ug/Kg in sample BUG-4, in excess of the NYSDEC RSCO of 3,200 ug/Kg. Dibenzo(a,h)anthracene exhibited concentrations ranging from 460-5,500 ug/Kg in the composite sample and samples BUG-1, BUG-4, and BUG-5, in excess of the NYSDEC RSCO of 14 ug/Kg.

While in excess of RSCOs, the concentrations of PAHs detected in soils at the project site are, however, within published concentration ranges associated with historic fill materials (*i.e.*, the New Jersey Department of Environmental Protection Historic Fill Database; N.J.A.C. 7:26E, Appendix D). Pertinent PAH and arsenic data from this Database is summarized below:

Constituent	Number of Samples	Minimum (mg/Kg)	Maximum (mg/Kg)	Avg (mg/Kg)
Benzo(a)anthracene	441	0.03	160	1.37
Benzo(a)pyrene	431	0.02	120	1.89
Benzo(b)fluorene	426	0.02	110	1.91
Benzo(k)fluoranthene	412	0.02	93	1.79
Indeno(1,2,3-cd)pyrene	397	0.02	67	1.41
Dibenzo(a,h)anthracene	286	0.01	25	1.24
Arsenic	369	0.05	1098	13.2

3.3 PRIORITY POLLUTANT METALS

The laboratory analytical results for Priority Pollutant Metals are summarized in Table 3-3; in addition to comparison with NYSDEC Criteria, literature data identifying background metals concentrations in the Eastern United States are provided for context (Shacklette and Boerngen, 1984). Only arsenic and mercury exceed NYSDEC RSCOs, although in most cases observed concentrations are within Eastern United States Background levels². Arsenic exhibited concentrations ranging from 12.4-296 mg/kg in the composite sample and samples BUG-4, BUG-5, BUG-6, BUG-7, BUG-8, BUG-11, BUG-12, BUG-13, BUG-14, BUG-15, BUG-16, BUG-17, BUG-18, and BUG-19, in excess of the NYSDEC RSCO of 7.5 mg/kg. Mercury exhibited concentrations ranging from 0.13-12.1 in all of the samples collected, in excess of the RSCO of 0.1 mg/kg. A range of other metals (primarily beryllium, chromium, copper, nickel, and zinc) also exceed default RSCO concentrations; however, criteria associated with these metals are also linked to site background concentrations, which were not obtained during this study, and which would be expected to be elevated given the urbanized character of the project area.

3.4 PCBs

Table 3-4 summarizes the results of soil analysis for PCBs. No PCBs were detected at concentrations in excess of the NYSDEC Recommended Soil Cleanup Objectives.

² The only exceptions being arsenic concentrations of 85.4, 296, and 75.4 mg/Kg at locations BUG-11, BUG-13, and BUG-17, respectively, and mercury concentrations of 4.6, 12.1, and 10.7 mg/Kg at locations BUG-11, BUG-18, and BUG-20, respectively.

TABLE 3-1
BUG SITE, STATEN ISLAND, NEW YORK
TCL VOLATILE ORGANIC COMPOUND (VOC) LABORATORY ANALYSIS OF SOILS (ug/Kg)
Sample Dates: 10/01-02/2003, 12/18/03

Sample ID (depth, ft bgs)	Recommended Soil Cleanup Objectives [1]	Composite	BUG-1	BUG-4	BUG-5	BUG-6	BUG-7	BUG-8	BUG-11	BUG-12
Laboratory Sample ID #		467560	489057	489059	489060	489061	489062	489063	489064	489065
Chloromethane	NS	8.0 U	5.4 U	5.7 U	6.2 U	7.6 U	11 U	9.8 U	9.9 U	9.2 U
Bromomethane	NS	8.0 U	5.4 U	5.7 U	6.2 U	7.6 U	11 U	9.8 U	9.9 U	9.2 U
VinylChloride	200	8.0 U	5.4 U	5.7 U	6.2 U	7.6 U	11 U	9.8 U	9.9 U	9.2 U
Chloroethane	1,900	8.0 U	5.4 U	5.7 U	6.2 U	7.6 U	11 U	9.8 U	9.9 U	9.2 U
MethyleneChloride	100	6.0 B	3.2 U	3.4 U	1.3 JB	1.8 JB	3.7 JB	4.8 JB	1.9 JB	1.8 JB
Trichlorofluoromethane	NS	8.0 U	5.4 U	5.7 U	6.2 U	7.6 U	11 U	9.8 U	9.9 U	9.2 U
1,1-Dichloroethene	400	3.2 U	2.2 U	2.3 U	2.5 U	3.0 U	4.3 U	3.9 U	4.0 U	3.7 U
1,1-Dichloroethane	200	8.0 U	5.4 U	5.7 U	6.2 U	7.6 U	11 U	9.8 U	9.9 U	9.2 U
trans-1,2-Dichloroethene	300	8.0 U	5.4 U	5.7 U	6.2 U	7.6 U	11 U	9.8 U	9.9 U	9.2 U
cis-1,2-Dichloroethene	NS	8.0 U	5.4 U	5.7 U	6.2 U	7.6 U	11 U	9.8 U	9.9 U	9.2 U
Chloroform	300	8.0 U	5.4 U	5.7 U	6.2 U	7.6 U	11 U	9.8 U	9.9 U	9.2 U
1,2-Dichloroethane	100	3.2 U	2.2 U	2.3 U	2.5 U	3.0 U	4.3 U	3.9 U	4.0 U	3.7 U
1,1,1-Trichloroethane	800	8.0 U	5.4 U	5.7 U	6.2 U	7.6 U	11 U	9.8 U	9.9 U	9.2 U
CarbonTetrachloride	600	3.2 U	2.2 U	2.3 U	2.5 U	3.0 U	4.3 U	3.9 U	4.0 U	3.7 U
Bromodichloromethane	NS	1.6 U	1.1 U	1.1 U	1.2 U	1.5 U	2.2 U	2.0 U	2.0 U	1.8 U
1,2-Dichloropropane	NS	1.6 U	1.1 U	1.1 U	1.2 U	1.5 U	2.2 U	2.0 U	2.0 U	1.8 U
cis-1,3-Dichloropropene	NS	8.0 U	5.4 U	5.7 U	6.2 U	7.6 U	11 U	9.8 U	9.9 U	9.2 U
Trichloroethene	700	1.6 U	0.5 J	1.1 U	1.2 U	1.5 U	1.4 J	1.9 J	2.0 U	1.8 U
Dibromochloromethane	NS	8.0 U	5.4 U	5.7 U	6.2 U	7.6 U	11 U	9.8 U	9.9 U	9.2 U
1,1,2-Trichloroethane	NS	4.8 U	3.2 U	3.4 U	3.7 U	4.6 U	6.5 U	5.9 U	6.0 U	5.5 U
Benzene	60	1.6 U	1.1 U	1.1 U	0.9 J	1.5 U	2.2 U	2.0 U	2.0 U	1.8 U
trans-1,3-Dichloropropene	NS	8.0 U	5.4 U	5.7 U	6.2 U	7.6 U	11 U	9.8 U	9.9 U	9.2 U
2-ChloroethylVinylEther	NS	8.0 U	5.4 U	5.7 U	6.2 U	7.6 U	11 U	9.8 U	9.9 U	9.2 U
Bromoform	NS	6.4 U	4.3 U	4.5 U	4.9 U	6.1 U	8.6 U	7.9 U	8.0 U	7.3 U
Tetrachloroethene	1,400	1.6 U	1.1 U	1.1 U	1.2 U	1.5 U	2.2 U	2.0 U	2.0 U	1.8 U
1,1,2,2-Tetrachloroethane	600	1.6 U	1.1 U	1.1 U	1.2 U	1.5 U	2.2 U	2.0 U	2.0 U	1.8 U
Toluene	1,500	8.0 U	5.4 U	5.7 U	1.6 J	7.6 U	11 U	9.8 U	9.9 U	9.2 U
Chlorobenzene	1,700	8.0 U	5.4 U	5.7 U	6.2 U	7.6 U	11 U	9.8 U	9.9 U	9.2 U
Ethylbenzene	5,500	6.4 U	4.3 U	4.5 U	4.9 U	6.1 U	8.6 U	7.9 U	8.0 U	7.3 U
Xylene(Total)	1,200	8.0 U	5.4 U	5.7 U	6.2 U	7.6 U	11 U	9.8 U	9.9 U	9.2 U
Total	NS	0	0	0	0	0	0	0	0	0
TICs	<10,000	6.0 B	0	0	0	0	0	0	0	0

NOTES:
NS = No Standard
TICs = Tentatively Identified Compounds (estimated concentration)
ND = Not Detected

DATA QUALIFIERS:
J - Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified quantitation limit but greater than or equal to the method detection limit. The concentration listed is an approximate value.
B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.
U - The compound was not detected at the indicated concentration.

[1] - Division Technical Administrative Guidance Memorandum (TAGM) on Determination of Soil Cleanup Objectives and Cleanup Levels (HWR-94-4046), NYSDEC, January 24, 1994.

TABLE 3-1
BUG SITE, STATEN ISLAND, NEW YORK
TCL VOLATILE ORGANIC COMPOUND (VOC) LABORATORY ANALYSIS OF SOILS (ug/Kg)
Sample Dates: 10/01-02/2003, 12/18/03

Sample ID (depth, ft bgs)	Recommended Soil Cleanup Objectives [1]	BUG-13	BUG-14	BUG-15	BUG-16	BUG-17	BUG-18	BUG-19	BUG-20
Laboratory Sample ID #		489066	489067	489068	489069	489070	489071	489072	489073
Chloromethane	NS	9.8 U	19 U	9.5 U	11 U	9.9 U	23 U	14 U	17 U
Bromomethane	NS	9.8 U	19 U	9.5 U	11 U	9.9 U	23 U	14 U	17 U
VinylChloride	200	9.8 U	19 U	9.5 U	11 U	9.9 U	23 U	14 U	17 U
Chloroethane	1,900	9.8 U	19 U	9.5 U	11 U	9.9 U	23 U	14 U	17 U
MethyleneChloride	100	5.9 U	6.4 JB	2.8 JB	4.6 JB	1.5 JB	7.8 JB	1.1 BJ	10 U
Trichlorofluoromethane	NS	9.8 U	19 U	9.5 U	11 U	9.9 U	23 U	14 U	17 U
1,1-Dichloroethene	400	3.9 U	7.8 U	3.8 U	4.5 U	3.9 U	9.4 U	5.4 U	6.9 U
1,1-Dichloroethane	200	9.8 U	19 U	9.5 U	11 U	9.9 U	23 U	14 U	17 U
trans-1,2-Dichloroethene	300	9.8 U	19 U	9.5 U	11 U	9.9 U	23 U	14 U	17 U
cis-1,2-Dichloroethene	NS	9.8 U	19 U	9.5 U	11 U	9.9 U	23 U	14 U	17 U
Chloroform	300	9.8 U	19 U	9.5 U	11 U	9.9 U	23 U	14 U	17 U
1,2-Dichloroethane	100	3.9 U	7.8 U	3.8 U	4.5 U	3.9 U	9.4 U	5.4 U	6.9 U
1,1,1-Trichloroethane	800	9.8 U	19 U	9.5 U	11 U	9.9 U	23 U	14 U	17 U
CarbonTetrachloride	600	3.9 U	7.8 U	3.8 U	4.5 U	3.9 U	9.4 U	5.4 U	6.9 U
Bromodichloromethane	NS	2.0 U	3.9 U	1.9 U	2.2 U	2.0 U	4.7 U	2.7 U	3.4 U
1,2-Dichloropropane	NS	2.0 U	3.9 U	1.9 U	2.2 U	2.0 U	4.7 U	2.7 U	3.4 U
cis-1,3-Dichloropropene	NS	9.8 U	19 U	9.5 U	11 U	9.9 U	23 U	14 U	17 U
Trichloroethene	700	2.0 U	3.9 U	1.9 U	1.5 J	2.0 U	3.6 J	1.3 J	1.5 J
Dibromochloromethane	NS	9.8 U	19 U	9.5 U	11 U	9.9 U	23 U	14 U	17 U
1,1,2-Trichloroethane	NS	5.9 U	12 U	5.7 U	6.7 U	5.9 U	14 U	8.1 U	10 U
Benzene	60	2.0 U	3.9 U	1.9 U	2.2 U	2.0 U	4.7 U	2.7 U	3.4 U
trans-1,3-Dichloropropene	NS	9.8 U	19 U	9.5 U	11 U	9.9 U	23 U	14 U	17 U
2-ChloroethylVinylEther	NS	9.8 U	19 U	9.5 U	11 U	9.9 U	23 U	14 U	17 U
Bromoform	NS	7.8 U	16 U	7.6 U	8.9 U	7.9 U	19 U	11 U	14 U
Tetrachloroethene	1,400	2.0 U	3.9 U	1.9 U	2.2 U	2.0 U	4.7 U	2.7 U	3.4 U
1,1,2,2-Tetrachloroethane	600	2.0 U	3.9 U	1.9 U	2.2 U	2.0 U	4.7 U	2.7 U	3.4 U
Toluene	1,500	9.8 U	19 U	9.5 U	2.6 J	9.9 U	23 U	14 U	17 U
Chlorobenzene	1,700	9.8 U	19 U	9.5 U	11 U	9.9 U	23 U	14 U	17 U
Ethylbenzene	5,500	7.8 U	16 U	7.6 U	8.9 U	7.9 U	19 U	11 U	14 U
Xylene(Total)	1,200	9.8 U	19 U	9.5 U	11 U	9.9 U	23 U	14 U	17 U
Total	NS	0	0	0	0	0	0	0	0
TICs	<10,000	0	53	0	28	0	0	0	31

NOTES:
NS = No Standard
TICs = Tentatively Identified Compounds (estimated concentration)
ND = Not Detected

DATA QUALIFIERS:
J - Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified quantitation limit but greater than or equal to the method detection limit.
The concentration listed is an approximate value.
B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.
U - The compound was not detected at the indicated concentration.

[1] - Division Technical Administrative Guidance Memorandum (TAGM) on Determination of Soil Cleanup Objectives and Cleanup Levels (HWR-94-4046), NYSDEC, January 24, 1994.

TABLE 3-2
BUG SITE, STATEN ISLAND, NEW YORK
TCL SEMIVOLATILE ORGANIC COMPOUND (SVOC) LABORATORY ANALYSIS OF SOILS (ug/Kg)
Sample Dates: 10/01-02/2003, 12/18/03

Sample ID (depth, ft bgs)	Recommended Soil Cleanup Objectives [1]	Composite	BUG-1	BUG-4	BUG-5	BUG-6	BUG-7	BUG-8	BUG-11	BUG-12
Laboratory Sample ID #		467560	489057	489059	489060	489061	489062	489063	489064	489065
Phenol	30 or MDL	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
2-Chlorophenol	800	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
2-Nitrophenol	330 or MDL	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
2,4-Dimethylphenol	200	550 U	1,900 U	9,800 U	20 J	540 U	750 U	750 U	700 U	700 U
2,4-Dichlorophenol	400	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
4-Chloro-3-methylphenol	240 or MDL	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
2,4,6-Trichlorophenol	200	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
2,4-Dinitrophenol	200 or MDL	2,200 U	7,600 U	39,000 U	3,300 U	2,100 U	3,000 U	3,000 U	2,800 U	2,800 U
4-Nitrophenol	100 or MDL	2,200 U	7,600 U	39,000 U	3,300 U	2,100 U	3,000 U	3,000 U	2,800 U	2,800 U
4,6-Dinitro-2-methylphenol	100	2,200 U	7,600 U	39,000 U	3,300 U	2,100 U	3,000 U	3,000 U	2,800 U	2,800 U
Pentachlorophenol	1000 or MDL	2,200 U	7,600 U	39,000 U	3,300 U	2,100 U	3,000 U	3,000 U	2,800 U	2,800 U
N-Nitrosodimethylamine	NS	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
bis(2-Chloroethyl)ether	800	55 U	190 U	980 U	82 U	54 U	75 U	75 U	70 U	70 U
1,3-Dichlorobenzene	600	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
1,4-Dichlorobenzene	NS	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
1,2-Dichlorobenzene	NS	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
bis(2-chloroisopropyl)ether	NS	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
N-Nitroso-di-n-propylamine	700	55 U	190 U	980 U	82 U	54 U	75 U	75 U	70 U	70 U
Hexachloroethane	NS	55 U	190 U	980 U	82 U	54 U	75 U	75 U	70 U	70 U
Nitrobenzene	200 or MDL	55 U	190 U	980 U	82 U	54 U	75 U	75 U	70 U	70 U
Isophorone	4,400	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
bis(2-Chloroethoxy)methane	NS	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
1,2,4-Trichlorobenzene	NS	55 U	190 U	980 U	82 U	54 U	75 U	75 U	70 U	70 U
Naphthalene	13,000	120 J	870 J	4,100 J	780 J	37 J	750 U	750 U	24 J	16 J
Hexachlorobutadiene	1,400	110 U	380 U	2,000 U	160 U	110 U	150 U	150 U	140 U	140 U
Hexachlorocyclopentadiene	1,500	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
2-Chloronaphthalene	1,700	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
Dimethylphthalate	2,000	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
Acenaphthylene	41,000	140 J	100 J	650 J	270 J	66 J	18 J	51 J	40 J	44 J
2,6-Dinitrotoluene	1,000	110 U	380 U	2,000 U	160 U	110 U	150 U	150 U	140 U	140 U
Acenaphthene	50,000	250 J	1,000 J	6,800 J	1,000	11 J	750 U	750 U	700 U	700 U
2,4-Dinitrotoluene	200	110 U	380 U	2,000 U	160 U	110 U	150 U	150 U	140 U	140 U
Diethylphthalate	7,100	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
4-Chlorophenyl-phenylether	NS	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
Fluorene	50,000	220 J	1,500 J	5,700 J	740 J	19 J	750 U	750 U	700 U	700 U
N-Nitrosodiphenylamine	300	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
4-Bromophenyl-phenylether	800	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
Hexachlorobenzene	410	55 U	190 U	980 U	82 U	54 U	75 U	75 U	70 U	70 U
Phenanthrene	50,000	3,900	14,000	61,000	12,000	160 J	42 J	62 J	63 J	47 J
Anthracene	50,000	700	2,700	14,000	2,200	46 J	750 U	20 J	28 J	19 J
Di-n-butylphthalate	8,100	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
Fluoranthene	50,000	3,600	11,000	74,000	8,900	240 J	74 J	130 J	92 J	76 J
Pyrene	50,000	7,200	8,900	94,000	9,300	370 J	89 J	150 J	110 J	110 J
Benzidine	NS	2,200 U	7,600 U	39,000 U	3,300 U	2,100 U	3,000 U	3,000 U	2,800 U	2,800 U
Butylbenzylphthalate	50,000	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
3,3-Dichlorobenzidine	NS	1,100 U	3,800 U	20,000 U	1,600 U	1,100 U	1,500 U	1,500 U	1,400 U	1,400 U
Benzo(a)anthracene	224 or MDL	2,000	4,300	39,000	3,400	190	48 J	82	67 J	66 J
Chrysene	400	3,100	4,000	38,000	3,500	260 J	64 J	130 J	87 J	99 J
bis(2-Ethylhexyl)phthalate	50,000	550 U	1,900 U	9,800 U	190 J	540 U	750 U	750 U	700 U	700 U
Di-n-octylphthalate	50,000	550 U	1,900 U	9,800 U	820 U	540 U	750 U	750 U	700 U	700 U
Benzo(b)fluoranthene	1,100	1,800	2,900	29,000	3,000	210	42 J	88	70	76
Benzo(k)fluoranthene	1,100	2,600	3,100	35,000	3,400	230	51 J	110	49 J	72
Benzo(a)pyrene	61 or MDL	2,400	3,300	35,000	3,500	260	58 J	100	56 J	65 J
Indeno(1,2,3-cd)pyrene	3,200	1,400	2,100	17,000	1,300	120	31 J	60 J	45 J	37 J
Dibenzo(a,h)anthracene	14 or MDL	490	780	5,500	460	49 J	75 U	75 U	70 U	70 U
Benzo(g,h,i)perylene	50,000	1,400	2,400	18,000	1,500	150 J	39 J	72 J	56 J	45 J
Total	NS	37,630	59,480	459,500	53,460	1,010	0	380	70	148
TICs	<500,000	68,950	12,900	103,900	25,630	74,110	34,100	44,200	48,000	64,170

NOTES:
NS = No Standard
MDL = Method detection limit
TICs = Tentatively Identified Compounds (estimated concentration)
ND = Not Detected
Bold - Value exceeds soil cleanup criteria.

DATA QUALIFIERS:
J - Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified quantitation limit but greater than or equal to the method detection limit. The concentration listed is an approximate value.
B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.
U - The compound was not detected at the indicated concentration.

[1] - Division Technical Administrative Guidance Memorandum (TAGM) on Determination of Soil Cleanup Objectives and Cleanup Levels (HWR-94-4046), NYSDEC, January 24, 1994.

TABLE 3-2
BUG SITE, STATEN ISLAND, NEW YORK
TCL SEMIVOLATILE ORGANIC COMPOUND (SVOC) LABORATORY ANALYSIS OF SOILS (ug/Kg)
Sample Dates: 10/01-02/2003, 12/18/03

Sample ID (depth, ft bgs)	Recommended Soil Cleanup Objectives [1]	BUG-13	BUG-14	BUG-15	BUG-16	BUG-17	BUG-18	BUG-19	BUG-20
Laboratory Sample ID #		489066	489067	489068	489069	489070	489071	489072	489073
Phenol	30 or MDL	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
2-Chlorophenol	800	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
2-Nitrophenol	330 or MDL	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
2,4-Dimethylphenol	200	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
2,4-Dichlorophenol	400	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
4-Chloro-3-methylphenol	240 or MDL	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
2,4,6-Trichlorophenol	200	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
2,4-Dinitrophenol	200 or MDL	2,700 U	5,400 U	2,700 U	3,000 U	2,700 U	6,600 U	7,600 U	4,800 U
4-Nitrophenol	100 or MDL	2,700 U	5,400 U	2,700 U	3,000 U	2,700 U	6,600 U	7,600 U	4,800 U
4,6-Dinitro-2-methylphenol	100	2,700 U	5,400 U	2,700 U	3,000 U	2,700 U	6,600 U	7,600 U	4,800 U
Pentachlorophenol	1000 or MDL	2,700 U	5,400 U	2,700 U	3,000 U	2,700 U	6,600 U	7,600 U	4,800 U
N-Nitrosodimethylamine	NS	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
bis(2-Chloroethyl)ether	800	67 U	140 U	67 U	75 U	67 U	160 U	190 U	120 U
1,3-Dichlorobenzene	600	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
1,4-Dichlorobenzene	NS	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
1,2-Dichlorobenzene	NS	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
bis(2-chloroisopropyl)ether	NS	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
N-Nitroso-di-n-propylamine	700	67 U	140 U	67 U	75 U	67 U	160 U	190 U	120 U
Hexachloroethane	NS	67 U	140 U	67 U	75 U	67 U	160 U	190 U	120 U
Nitrobenzene	200 or MDL	67 U	140 U	67 U	75 U	67 U	160 U	190 U	120 U
Isophorone	4,400	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
bis(2-Chloroethoxy)methane	NS	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
1,2,4-Trichlorobenzene	NS	67 U	140 U	67 U	75 U	67 U	160 U	190 U	120 U
Naphthalene	13,000	670 U	1,400 U	670 U	750 U	15 J	35 J	55 J	1,200 U
Hexachlorobutadiene	1,400	130 U	270 U	130 U	150 U	130 U	330 U	380 U	240 U
Hexachlorocyclopentadiene	1,500	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
2-Chloronaphthalene	1,700	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
Dimethylphthalate	2,000	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
Acenaphthylene	41,000	670 U	43 J	19 J	17 J	37 J	59 J	240 J	1,200 U
2,6-Dinitrotoluene	1,000	130 U	270 U	130 U	150 U	130 U	330 U	380 U	240 U
Acenaphthene	50,000	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
2,4-Dinitrotoluene	200	130 U	270 U	130 U	150 U	130 U	330 U	380 U	240 U
Diethylphthalate	7,100	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
4-Chlorophenyl-phenylether	NS	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
Fluorene	50,000	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
N-Nitrosodiphenylamine	300	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
4-Bromophenyl-phenylether	800	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
Hexachlorobenzene	410	67 U	140 U	67 U	75 U	67 U	160 U	190 U	120 U
Phenanthrene	50,000	16 J	87 J	23 J	23 J	51 J	120 J	210 J	87 J
Anthracene	50,000	670 U	56 J	670 U	750 U	20 J	35 J	430 J	1,200 U
Di-n-butylphthalate	8,100	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
Fluoranthene	50,000	28 J	150 J	38 J	40 J	98 J	170 J	400 J	190 J
Pyrene	50,000	31 J	160 J	46 J	50 J	120 J	230 J	200 J	230 J
Benzidine	NS	2,700 U	5,400 U	2,700 U	3,000 U	2,700 U	6,600 U	7,600 U	4,800 U
Butylbenzylphthalate	50,000	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
3,3-Dichlorobenzidine	NS	1,300 U	2,700 U	1,300 U	1,500 U	1,300 U	3,300 U	3,800 U	2,400 U
Benzo(a)anthracene	224 or MDL	15 J	86 J	28 J	20 J	54 J	120 J	190 U	100 J
Chrysene	400	26 J	150 J	42 J	37 J	93 J	220 J	1,900 U	160 J
bis(2-Ethylhexyl)phthalate	50,000	670 U	710 J	140 J	200 J	670 U	540 J	540 J	380 J
Di-n-octylphthalate	50,000	670 U	1,400 U	670 U	750 U	670 U	1,600 U	1,900 U	1,200 U
Benzo(b)fluoranthene	1,100	18 J	100 J	37 J	25 J	62 J	130 J	190 U	140
Benzo(k)fluoranthene	1,100	24 J	110 J	27 J	28 J	78	140 J	190 U	130
Benzo(a)pyrene	61 or MDL	23 J	100 J	35 J	37 J	72	150 J	190 U	140
Indeno(1,2,3-cd)pyrene	3,200	67 U	140 U	67 U	75 U	44 J	94 J	190 U	74 J
Dibenzo(a,h)anthracene	14 or MDL	67 U	140 U	67 U	75 U	67 U	160 U	190 U	120 U
Benzo(g,h,i)perylene	50,000	670 U	100 J	27 J	750 U	52 J	98 J	260 J	110 J
TICs	NS	0	0	0	0	150	0	0	410
Total	<500,000	36,890	40,300	49,070	60,650	56,140	32,300	114,400	13,800

NOTES:
NS = No Standard
MDL = Method detection limit
TICs = Tentatively Identified Compounds (estimated concentration)
ND = Not Detected
Bold - Value exceeds soil cleanup criteria.

DATA QUALIFIERS:
J - Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified quantitation limit but greater than or equal to the method detection limit. The concentration listed is an approximate value.
B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.
U - The compound was not detected at the indicated concentration.

[1] - Division Technical Administrative Guidance Memorandum (TAGM) on Determination of Soil Cleanup Objectives and Cleanup Levels (HWR-94-4046), NYSDEC, January 24, 1994.

TABLE 3-3
BUG SITE, STATEN ISLAND, NEW YORK
PRIORITY POLLUTANT METALS LABORATORY ANALYSIS OF SOILS (mg/Kg)
Sample Dates: 10/01-02/2003, 12/18/20003

Sample ID (depth, ft bgs)	Recommended Soil	Eastern USA Background	Composite	BUG-1	BUG-4	BUG-5	BUG-6	BUG-7	BUG-8	BUG-11	BUG-12
Laboratory Sample ID #	Cleanup Objectives [1]	Range in Soil [2]	467560	485645	485641	485642	485652	485648	485651	485636	485635
Antimony	SB	<1-8.8	1.9U	1.5B	2.2U	2.2U	1.7U	2.3U	3.9U	2.4U	3.0
Arsenic	7.5	<0.1-73	17.7	3.8	12.4	13.0	20.1	21.2	48.0	85.4	20.3
Beryllium	0.16 or SB	<1-7	0.50 B	0.38	0.41 B	0.43 B	0.27 B	0.37 B	1.5	0.42 B	0.70 B
Cadmium	1.0 or SB	NV	0.28B	1.3	0.43B	0.26B	0.36B	0.33B	1.3 B	0.64B	0.21U
Chromium	10 or SB	1-1,000	36.7	20.0	44.8	22.6	26.1	31.2	44.2	64.9	51.3
Copper	25 or SB	<1-700	77.7	41.3	38.6	64.2	92.1	34.9	102	91.9	102
Lead	SB*	<10-300	125	489	48.7	21.9	67.8	55.7	85.4	288	52.1
Mercury	0.1	0.01-3.4	0.93	0.19	0.28	0.13	0.42	0.45	0.48	4.6	0.86
Nickel	13 or SB	<5-700	26.0	103	16.7	12.2 B	8.2	10.8B	20.7 B	18.5	11.2B
Selenium	2.0 or SB	0.1-3.9	2.3	1.0U	1.6U	1.6U	1.2U	1.6U	2.9 U	1.7B	2.2 U
Silver	SB	NV	0.46U	0.34U	0.52U	0.52U	0.40U	0.55U	0.95U	0.60B	0.73U
Thallium	SB	NV	1.6U	1.1U	1.8U	1.7U	1.4U	1.8U	3.2U	2.0U	2.4U
Zinc	20 or SB	<5-2,900	142	479	58.8	66.4	63.2	39.6	104	59.9	37.0

Sample ID (depth, ft bgs)	Recommended Soil	Eastern USA Background	BUG-13	BUG-14	BUG-15	BUG-16	BUG-17	BUG-18	BUG-19	BUG-20
Laboratory Sample ID #	Cleanup Objectives [1]	Range in Soil [2]	485638	485640	485639	485647	485644	485637	485653	485634
Antimony	SB	<1-8.8	2.5U	2.3U	2.6U	2.7U	1.7B	3.2U	2.1U	1.7
Arsenic	7.5	<0.1-73	296	14.0	14.4	37.6	75.4	68.4	51.7	3.7
Beryllium	0.16 or SB	<1-7	0.35 B	0.57 B	1.9	1.1	0.76	0.66 B	0.81	1.1
Cadmium	1.0 or SB	NV	0.35B	0.22B	0.61B	0.26	0.35B	0.33B	0.31B	15.8
Chromium	10 or SB	1-1,000	52.7	41.9	41.3	61.4	113	456	67.8	40.3
Copper	25 or SB	<1-700	104	70.9	44.0	160	239	203	276	32.7
Lead	SB*	<10-300	125	46.0	42.5	247	275	207	180	0.06
Mercury	0.1	0.01-3.4	0.50	0.28	0.34	0.82	2.4	12.1	2.9	10.7
Nickel	13 or SB	<5-700	12.7	14.2B	42.2	17.2	24.5	21.2B	19.7	1.2U
Selenium	2.0 or SB	0.1-3.9	2.2	1.7U	1.9U	2.1	2.6	5.5	2.5	10.7B
Silver	SB	NV	0.60U	0.55U	0.63U	0.85	0.55B	2.1B	0.72B	0.040U
Thallium	SB	NV	2.0U	1.9U	2.1U	2.2U	1.2U	2.6U	1.7U	1.3U
Zinc	20 or SB	<5-2,900	41.7	59.3	260	56.7	106	68.7	100	66.8

SB = Site Background

* Background levels for lead vary widely. Average levels in undeveloped, rural areas may range from 4-61 mg/Kg. Average background levels in metropolitan or suburban areas or near highways are much higher, and typically range from 200-500 mg/Kg.

Heavy Bold - Value exceeds soil cleanup criteria.

Light Bold - Value exceeds guidance value; SB unknown.

DATA QUALIFIERS:

U - Constituent not detected at the indicated concentration

B - Reported value is less than the Practical Quantation Limit (PQL) but greater than or equal to the Instrument Detection Limit (IDL).

[1] - Division Technical Administrative Guidance Memorandum (TAGM) on Determination of Soil Cleanup Objectives and Cleanup Levels (HWR-94-4046), NYSDEC, January 24, 1994.

[2] - Shacklette, H.T. and J. Boerngen. 1984. Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States. U.S. Geological Survey Professional Paper 1270. Washington D.C.

TABLE 3-4
BUG SITE, STATEN ISLAND, NEW YORK
POLYCHLORINATED BIPHENOLS (PCBs) (ug/Kg), TOTAL PHENOLS AND TOTAL CYANIDE (mg/Kg) LABORATORY ANALYSIS OF SOIL
Sample Dates: 10/01-02/2003, 12/18/03

Sample ID (depth, ft bgs)	Recommended Soil Cleanup Objectives [1]	Composite	BUG-1	BUG-4	BUG-5	BUG-6	BUG-7	BUG-8	BUG-11	BUG-12
Laboratory Sample ID #		467560	489057	489059	489060	489061	489062	489063	489064	489065
Aroclor-1016	1,000 / 10,000 [a]	110 U	76 U	79 U	83 U	110 U	150 U	150 U	140 U	140 U
Aroclor-1221	1,000 / 10,000 [a]	110 U	76 U	79 U	83 U	110 U	150 U	150 U	140 U	140 U
Aroclor-1232	1,000 / 10,000 [a]	110 U	76 U	79 U	83 U	110 U	150 U	150 U	140 U	140 U
Aroclor-1242	1,000 / 10,000 [a]	110 U	76 U	79 U	83 U	110 U	150 U	150 U	140 U	140 U
Aroclor-1248	1,000 / 10,000 [a]	110 U	76 U	79 U	83 U	110 U	150 U	150 U	140 U	140 U
Aroclor-1254	1,000 / 10,000 [a]	110 U	76 U	79 U	83 U	110 U	150 U	150 U	140 U	140 U
Aroclor-1260	1,000 / 10,000 [a]	110 U	76 U	79 U	83 U	110 U	150 U	150 U	140 U	140 U
Aroclor-1262	1,000 / 10,000 [a]	110 U	76 U	79 U	83 U	110 U	150 U	150 U	140 U	140 U
Aroclor-1268	1,000 / 10,000 [a]	110 U	76 U	79 U	83 U	110 U	150 U	150 U	140 U	140 U
Total Cyanide - mg/Kg	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Total Phenols - mg/Kg	NA	5.0 U	5.0 U	5.0 U	5.4	9.2	5.0 U	5.0 U	20.2	29.8

Sample ID (depth, ft bgs)	Recommended Soil Cleanup Criteria	BUG-13	BUG-14	BUG-15	BUG-16	BUG-17	BUG-18	BUG-19	BUG-20
Laboratory Sample ID #		489066	489067	489068	489069	489070	489071	489072	489073
Aroclor-1016	1,000 / 10,000 [a]	140 U	270 U	130 U	150 U	140 U	330 U	190 U	240 U
Aroclor-1221	1,000 / 10,000 [a]	140 U	270 U	130 U	150 U	140 U	330 U	190 U	240 U
Aroclor-1232	1,000 / 10,000 [a]	140 U	270 U	130 U	150 U	140 U	330 U	190 U	240 U
Aroclor-1242	1,000 / 10,000 [a]	140 U	270 U	130 U	150 U	140 U	330 U	190 U	240 U
Aroclor-1248	1,000 / 10,000 [a]	140 U	270 U	130 U	150 U	140 U	330 U	190 U	240 U
Aroclor-1254	1,000 / 10,000 [a]	140 U	270 U	130 U	150 U	140 U	330 U	190 U	240 U
Aroclor-1260	1,000 / 10,000 [a]	140 U	270 U	130 U	150 U	140 U	330 U	350	240 U
Aroclor-1262	1,000 / 10,000 [a]	140 U	270 U	130 U	150 U	140 U	330 U	190 U	240 U
Aroclor-1268	1,000 / 10,000 [a]	140 U	270 U	130 U	150 U	140 U	330 U	190 U	240 U
Total Cyanide - mg/Kg	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	3.4	0.5 U	0.5 U
Total Phenols - mg/Kg	NA	5.0 U	5.0 U	5.0 U	5.0 U	10.1	5.0 U	42.3	5.0 U

NOTES:
[a] 1,000 ug/Kg (surface soils) / 10,000 ug/Kg (subsurface soils)

DATA QUALIFIERS:
U - The compound was not detected at te indicated concentration
J - Indicates that the compound was analyzed for and determined to be present in the sample.

[1] - Division Technical Administrative Guidance Memorandum (TAGM) on Determination of Soil Cleanup Objectives and Cleanup Levels (HWR-94-4046), NYSDEC, January 24, 1994.

4.0 DISCUSSION

Due to the screening-level nature of this investigation and the fact that fill materials tend to be chemically heterogeneous, the analytical results presented in Section 3.0 provide only general information about the environmental risks associated with the project site. These results do, however, provide an indication of the types of materials likely to be encountered across the project site, as well as specific locations where additional investigation may be warranted. Soil materials encountered at the project sites are characteristic of urban fill, and should not require additional delineation sampling. However, additional waste characteristic sample requirements will likely be necessary to support various options for soil reuse and/or disposal, as discussed below:

There are three primary options for disposition of soil materials excavated from the project site: (1) on-site reuse (e.g., regrading/filling), (2) off-site beneficial reuse (e.g., backfill) or exempted use (e.g., landfill cover), and (3) off-site disposal. In all cases, waste characterization analysis³ must be performed to classify the materials as either hazardous or non-hazardous. Given the nature of the soil materials encountered at the project site, the contaminants detected, and the concentration range of these contaminants, it may be possible to limit such testing to targeted TCLP metals and pesticide/herbicide analysis⁴. Note that while the PAHs (SVOCs) are typically subject to stringent soil cleanup criteria, especially in residential areas (given their status as known or suspected carcinogens), they are generally not regulated as hazardous-waste constituents. Their presence on the project site at concentrations typically associated with urban historic fill is unlikely to restrict off-site beneficial reuse or disposal at non-hazardous solid-waste facilities. Waste characterization testing protocols for the project site (location and number of samples, toxicity testing requirements), would represent subjects of negotiation with NYSDEC, and in the case of off-site non-hazardous waste disposal or reuse for landfill cover, with the disposal facility operator.

On-Site Reuse

If the soil materials are determined to be non-hazardous, they are also not regulated as solid wastes if they are "...excavated as part of a construction project...and...used as backfill for the same excavation or excavations containing similar contaminants at the same site" [6 NYCRR Part 360-1.15(b)(8)]. Excess materials would be treated as solid wastes under Part 360, and regulated as such.

Off-Site Beneficial Reuse/Exempted Use

In addition to a non-hazardous determination, off-site beneficial reuse (e.g., backfill) also requires attainment of contaminant specific criteria⁵. These criteria are normally in the form of

³ Characteristic of ignitability, characteristic of corrosivity, characteristic of reactivity, and toxicity characteristic (6 NYCRR Part 371.3); the latter determined through performance of Toxicity Characteristic Leaching Procedure (TCLP) analysis.

⁴ The full range of TCLP analysis includes metals, VOCs, semivolatile organic compounds (SVOCs), pesticides, and herbicides.

⁵ Such criteria are established by NYSDEC following a petition for a case-specific Beneficial Use Determination (BUD); 6 NYCRR Part 360-1.15(d)

individual compound/element specific limits for VOCs and metals, and total compound group limits for semivolatile organic compounds (SVOCs), carcinogenic SVOCs, pesticides, and PCBs. Consequently, if off-site beneficial reuse is identified to represent an appropriate option for soils excavated from the project sites, additional bulk sampling for a subset of the HTRW constituents may be required.

Off-Site Disposal

Off-site disposal of soils as hazardous or non-hazardous waste would require a negotiated level of waste characterization sampling, as noted previously. Due to the large volume of excavated soil materials anticipated to be associated with ecosystem restoration at the project site, widespread implementation of this option would likely be cost prohibitive.

5.0 REFERENCES

N.J.A.C. 7:26E Technical Requirements For Site Remediation, Appendix D.

NYSDEC Division Technical Administrative Guidance Memorandum (TAGM) on Determination of Soil Cleanup Objectives and Cleanup Levels (HWR-94-4046); 24 January 1994.

Shacklette and Boerngen. 1984. Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States. U.S. Geological Survey Professional Paper 1270, Washington, D.C.

U.S. Army Corps of Engineers-New York District (USACE-NYD). June 2003. Scope of Work for the Wetland Mitigation HTRW for the BUG Site, Staten Island, NY.

APPENDIX A
LABORATORY ANALYTICAL DATA PACKAGES

SECTION 02230

CLEARING AND GRUBBING

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PART 1 GENERAL

1.1 SCOPE OF WORK

The Contractor shall clear and remove: 1) all objectionable material including trees, shrubs, brush, vines, standing *Phragmites* and wrack, stumps of all sizes, weeds, stones, boulders, tires, and trash and 2) the top 6 inches of loose surface litter, organic litter, *Phragmites* rhizomes, consolidated material, leaf litter, and other organic debris. This material shall be removed from within the Limits of Clearing and Grubbing, in accordance with the Contract Drawings and specifications, and the direction of the Contracting Officer and properly disposed of at an approved off site location. At no time shall the Contractor dispose of on site any debris, soil or other material that may or does contain *Phragmites australis* rhizome.

The Contractor shall carefully protect all areas to remain vegetated, and shall also be liable for any and all damages to property caused by the work under this section. Any damages to property or to vegetated areas shall be restored to the original conditions to the satisfaction of the Contracting Officer at the Contractors expense.

All organic material, tires, and trash cleared under this section shall be disposed of, prior to excavation activities, at an appropriate off-site facility to be approved by the Contracting Officer.

1.2 MEASUREMENT AND PAYMENT

1.2.1 Payment Item No. 0005A Site Clearing

For performing the work under this item, in accordance with the Contract Drawings, specifications and directions of the Contracting Officer, the Contractor shall receive a LUMP SUM. The lump sum price bid shall include the cost of all labor, materials, and equipment necessary for clearing all objectionable material from within the Limits of Clearing and Grubbing, Low marsh, High marsh, and Maritime Scrub/Shrub areas as shown on the Contract Drawings, and all work incidental thereto, in accordance with the Contract Drawings and specifications and to the satisfaction of the Contracting Officer. The lump sum price shall also include: the disposal of organic materials at an off-site facility; the cost of the herbicide applied for *Phragmites* eradication; and any fees associated with acquiring permits.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Tree wound paint, G, A.

Submit product information 30 days prior to starting work.

Herbicide, G, A.

Submit product information 30 days prior to starting work.

PART 2 PRODUCTS

2.1 TREE WOUND PAINT

Bituminous based paint of standard manufacture specially formulated for tree wounds.

2.2 HERBICIDE

RODEO herbicide manufactured by Monsanto Industries, or an approved equal shall be the herbicide used to eradicate unwanted and/or invasive plant species in and around the Planned Wetland Area.

PART 3 EXECUTION

3.1 DELIVERY, STORAGE, AND HANDLING

Materials shall be delivered in the original, unopened containers bearing the manufacturer's chemical analysis, and store at the site in accordance with the manufacturer's instructions and the New York State Department of Environmental Conservation (NYSDEC) regulations.

3.2 METHOD

The Contractor shall perform work as indicated under this section prior to beginning work on excavation covered under other sections as directed by the Contracting Officer.

3.2.1 Permits

The Contractor shall be responsible for preparing, submitting, and obtaining any permits from federal, state, borough or local agencies that are required to authorize the spraying of herbicide. Copies of the permits shall be available for review by the Contracting Officer upon request prior to the application of any herbicide.

3.2.2 Invasives Eradication

The Contractor shall apply herbicide at a rate in accordance with the manufacturer's instructions and the NYSDEC regulations for any herbicide applications. Post construction, herbicide shall not be applied by backpack spraying or any other means (other than the primary pre-construction application), which, in the opinion of the Contracting Officer or the Contracting Officer's Representative, will result in the destruction of either existing native or planted wetland vegetation.

The Contractor shall be responsible, as necessary, for bi-annual herbicide application, during the contract warrantee period. The initial application of RODEO should be applied between August and early October, when the product is most effective at killing rhizomes. However, if the reestablishment/presence of invasive species is prominent initial application date may vary. The Contracting Officer or the Contracting Officer's Representative shall inspect the planned wetland, post construction, for the reestablishment/presence of invasive species of vegetation (i.e. *Phragmites australis*, *Polygonum cuspidatum*, *Wisteria frutescens*, *Ailanthus altissima*, *Celastris orbiculatus*, *Ampelopsis brevipedunculata*, *Rosa multiflora* and *Artemisia vulgaris*). Post construction, Rodeo shall be applied by hand painting, backpack sprayer or other controlled means under the direction of the Contracting Officer or the Contracting Officer's Representative in such a

manner as to prevent collateral damage to existing native or planted vegetation.

The surfactant used in conjunction with the application of RODEO shall be exempt from the requirements of tolerance under Title 40, CFR, 180.1001(d). Examples of such surfactants include LI 700 (Loveland Industries, Inc.) and Cygnet Plus (Brewer International).

3.3 CLEARING

Clearing shall consist of the felling, trimming, and cutting of trees into sections and the satisfactory disposal of the trees and other vegetation designated for removal, including downed timber, snags, brush, and rubbish occurring within the areas to be cleared. [Clearing shall also include the removal and disposal of structures that obtrude, encroach upon, or otherwise obstruct the work.] Trees, stumps, roots, brush, and other vegetation in areas to be cleared shall be cut off flush with or below the original ground surface, except such trees and vegetation as may be indicated or directed to be left standing. Trees designated to be left standing within the cleared areas shall be trimmed of dead branches 1-1/2 inches or more in diameter and shall be trimmed of all branches the heights indicated or directed. In addition any such trees shall be protected from damage potentially caused by construction activities. Every effort shall be made to avoid excessive damage to the roots of trees to be left standing. Limbs and branches to be trimmed shall be neatly cut close to the bole of the tree or main branches. Cuts more than 1-1/2 inches in diameter shall be painted with an approved tree-wound paint. Apply herbicide in accordance with the manufacturer's label to the top surface of stumps designated not to be removed.

3.4 TREE REMOVAL

Where indicated on the drawings or directed by the Contracting Officer or the Contracting Officer's Representative, trees and stumps shall be removed from areas outside those areas designated for Limits of Clearing and Grubbing. This work shall include the felling of such trees and the removal of their stumps and roots as specified in paragraph GRUBBING. Trees shall be disposed of as specified in paragraph DISPOSAL OF MATERIALS.

3.5 PRUNING

The Contractor shall trim trees designated to be left standing within the cleared areas of dead branches 1 1/2 inches or more in diameter; and trim branches to heights and in a manner as indicated. Neatly cut limbs and branches to be trimmed close to the bole of the tree or main branches. Paint cuts more than 1 1/4 inches in diameter with an approved tree wound paint.

3.6 GRUBBING

Grubbing shall consist of the removal and disposal of stumps, roots larger than 3 inches in diameter, and matted roots from the designated grubbing areas.

Material to be grubbed, together with logs and other organic or metallic debris not suitable for as sub-grade or planting medium purposes, shall be removed to a depth of not less than 18 inches below the original surface level of the ground and/or finish grades in areas indicated to be grubbed and in areas indicated as construction areas under this contract. Depressions made by grubbing shall be filled with suitable material and compacted to make the surface conform with the original adjacent surface of the ground.

3.7 WRACK REMOVAL

All wrack and debris that has collected in the low marsh, high marsh, and maritime scrub/shrub planting areas shall be thoroughly removed and disposed of off-site. Every effort shall be made to avoid damage to the existing wetland vegetation adjacent to these areas.

3.8 DISPOSAL OF MATERIALS

Logs, stumps, roots, brush, rotten wood, and other refuse from the Clearing and Grubbing operations shall be disposed of at the appropriate off-site facilities, except when otherwise directed in writing by the Contracting Officer or the Contracting Officer's Representative. Such directive will state the conditions covering the disposal of such products and will also state the areas in which they may be placed.

3.9 PROTECTION

3.9.1 Roads and Walks

The Contractor shall keep roads and walks free of dirt and debris at all times. This includes any of the roads or walkways on the interior of or that service the adjacent Keyspan energy facility and/or Gulf Avenue.

3.9.2 Trees, Shrubs, and Existing Facilities

Trees, shrubs, and existing facilities shall be protected in accordance with Section 01551, Site Clearing for Staging Area. Trees and vegetation to be left standing shall be protected from damage incident to clearing, grubbing, and construction operations by the erection of barriers or by such other means as the circumstances require.

3.9.3 Utility Lines

The Contractor shall protect all existing utility lines from damage. The Contractor shall notify the Contracting Officer immediately of damage to or an encounter with an unknown existing utility line. The Contractor shall be responsible for the repairs of damage to existing utility lines that are indicated or made known to the Contractor prior to start of clearing and grubbing operations. When utility lines which are to be removed are encountered within the area of operations, the Contractor shall notify the Contracting Officer in ample time to minimize interruption of the service. Refer to Section 01552, TEMPORARY FACILITIES and CONTROLS for additional utility protection.

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